Technical Specifications

InRow™ Chilled Water Air Conditioners

Up to 70 kW

Schneider Electric

Schneider Electric IT Corporation Legal Disclaimer

The information presented in this manual is not warranted by the Schneider Electric IT Corporation to be authoritative, error free, or complete. This publication is not meant to be a substitute for a detailed operational and site specific development plan. Therefore, Schneider Electric IT Corporation assumes no liability for damages, violations of codes, improper installation, system failures, or any other problems that could arise based on the use of this Publication.

The information contained in this Publication is provided as is and has been prepared solely for the purpose of evaluating data center design and construction. This Publication has been compiled in good faith by Schneider Electric IT Corporation. However, no representation is made or warranty given, either express or implied, as to the completeness or accuracy of the information this Publication contains.

IN NO EVENT SHALL SCHNEIDER ELECTRIC IT CORPORATION, OR ANY PARENT, AFFILIATE OR SUBSIDIARY COMPANY OF SCHNEIDER ELECTRIC IT CORPORATION OR THEIR RESPECTIVE OFFICERS, DIRECTORS, OR EMPLOYEES BE LIABLE FOR ANY DIRECT, INDIRECT, CONSEQUENTIAL, PUNITIVE, SPECIAL, OR INCIDENTAL DAMAGES (INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF BUSINESS, CONTRACT, REVENUE, DATA, INFORMATION, OR BUSINESS INTERRUPTION) RESULTING FROM, ARISING OUT, OR IN CONNECTION WITH THE USE OF, OR INABILITY TO USE THIS PUBLICATION OR THE CONTENT, EVEN IF SCHNEIDER ELECTRIC IT CORPORATION HAS BEEN EXPRESSLY ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. SCHNEIDER ELECTRIC IT CORPORATION RESERVES THE RIGHT TO MAKE CHANGES OR UPDATES WITH RESPECT TO OR IN THE CONTENT OF THE PUBLICATION OR THE FORMAT THEREOF AT ANY TIME WITHOUT NOTICE.

Copyright, intellectual, and all other proprietary rights in the content (including but not limited to software, audio, video, text, and photographs) rests with Schneider Electric It Corporation or its licensors. All rights in the content not expressly granted herein are reserved. No rights of any kind are licensed or assigned or shall otherwise pass to persons accessing this information.

This Publication shall not be for resale in whole or in part.

Table of Contents

Technical Data 1
Model Identification 1
Model identification label location 1
Overview 2
Capacity 2
Room air distribution 2
Compliance approval 2
Scalable Solutions for Critical Environments 3
Advantages of row-based cooling 3
Scalable for High Density 3
EcoAisle™ Aisle Containment System 4
Configurations 7
Connection to chiller through CDU 7
Direct connection to chiller 7
Standard Features and Options 8
Standard features 8
Optional features 10
Microprocessor Controller 12
ACRC301S/ACRC301H 12
ACRC500/ACRP500 13
Microprocessor controller 13
Open architecture 13
Control type 14
Functions 14
Logging 14
Control 14
Alarms 15
ACRC500/ACRP500 series only 16
ACRP500 series only 16
InRow ACRC301S/ACRC301H Models 17
External components - ACRC301S 17
External components - ACRC301H 18
Internal components - ACRC301S 19
User interface connection panel - ACRC301S 21
InRow ACRC500/ACRP500 Series 24
External components 24
Internal mechanical components (front) 25
Internal mechanical components (rear) 26
User interface connection 27
Electrical panel 28
Determining Cooling Capacity 29

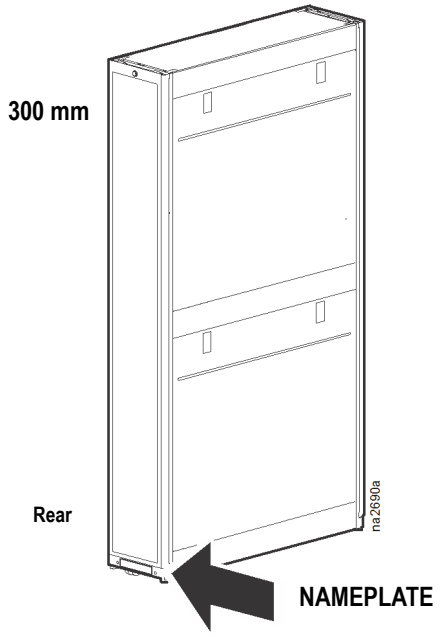
Recommended Capacity Limitations 30
ACRC301S 30
ACRC301H 30
ACRC500/ACRP500 series 30
ACRC301S 31
Performance Specifications 5°C (41°F) EWT 31
Performance Specifications 7.2°C (45°F) EWT (ACRC301S) 33
Performance Specifications 8.8°C (48°F) EWT (ACRC301S) 35
Performance Specifications 10°C (50°F) EWT (ACRC301S) 37
Performance Specifications 12.7°C (55°F) EWT (ACRC301S) 39
Performance Specifications 15°C (59°F) EWT (ACRC301S) 41
ACRC301H 43
Performance Specifications 10°C (50°F) EWT 43
Performance Specifications 12.7°C (55°F) EWT (ACRC301H) 45
Performance Specifications 15°C (59°F) EWT (ACRC301H) 47
Performance Specifications 17.5°C (63.5°F) EWT (ACRC301H) 49
Performance Specifications 20°C (68°F) EWT (ACRC301H) 51
Performance Specifications 22°C (72°F) EWT (ACRC301H) 53
ACRC500 Series/ACRP500 Series 55
Performance Specifications 5.6°C (42°F) EWT 55
Performance Specifications 7.2°C (45°F) EWT (ACRC500/ACRP500) 56
Performance Specifications 8.8°C (48°F) EWT (ACRC500/ACRP500) 57
Performance Specifications 10°C (50°F) EWT (ACRC500/ACRP500) 58
Performance Specifications 12.7°C (55°F) EWT (ACRC500/ACRP500) 59
Performance Specifications 15.5°C (60°F) EWT (ACRC500/ACRP500) 60
Performance Data—General 61
ACRC301S 61
ACRC301H** 62
ACRC500/ACRP500 series 63
Glycol Correction Factors 64
Altitude Correction Factors 64
Sound Performance Data 65
Electrical Data 66
Dimensional Data 67
InRow ACRC500/ACRP500 series assembled module 67
SX to VX height adapter—ACRC301S/ACRC301H series 68
SX to 48U SX height adapter—ACRC301S/ACRC301H series 68
SX to VX height adapter—ACRC500/ACRP500 seriesSX to 48U SX height adapter—ACRC500/ACRP500 series 68
Piping Connections 69
Piping and electrical access - ACRC301S 69
Internal piping diagram - ACRC301S 73
Internal piping diagram - ACRC301H 74
ACRC301 series

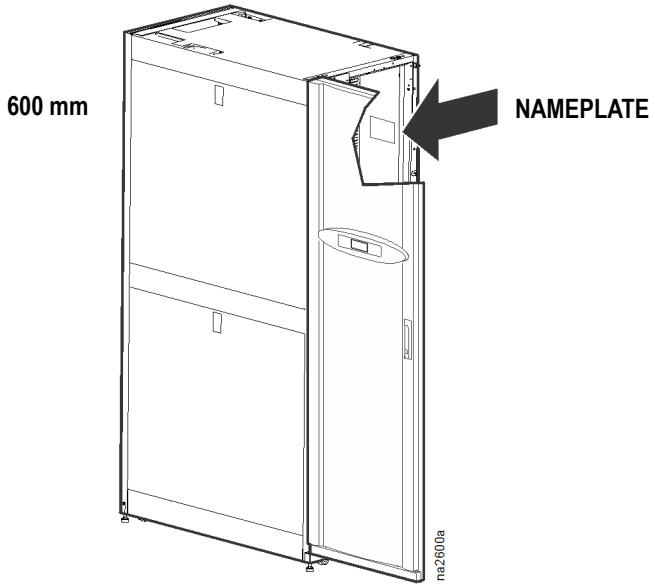
With Cooling Distribution Unit (CDU) 75
Without CDU 76
ACRC500/ACRP500 series 77
ACRC500/ACRP500 Series 78
Top chilled water piping access (top view) 78
Bottom piping and power access locations (bottom view, looking up) 79
Facility Planning 80
Warranty 83
Guide Specifications 85
InRow RC® Chilled Water Cooling Units. 85
100-240V/1ph/50/60Hz (ACRC301S)
208-230V/1ph/50/60Hz (ACRC301H)
200-240V/3ph/50/60Hz (ACRC500/ACRP500)
460-480V/3ph/50/60Hz (ACRC501/ACRP501)
380-415V/3ph/50/60Hz (ACRC502/ACRP502) 85

Technical Data

Model Identification

Model identification label location





Model	Width	Range of Capacity	Humidifier/ Reheat	Voltage	Phase	Frequency	Power Connection
ACRC301S	300 mm	Up to 45 kW	No	100–240V	1	50/60 Hz	NEMA L5-20P/ IEC 309-16A
ACRC301H	300 mm	Up to 60 kW	No	208–230V	1	50/60 Hz	HARDWIRED
ACRC500	600 mm	Up to 70 kW	No	200–240V	3	50/60 Hz	HARDWIRED Optional: NEMA L21-20P
ACRC501	600 mm	Up to 70 kW	No	460–480V	3	50/60 Hz	HARDWIRED
ACRC502	600 mm	Up to 70 kW	No	380–415V	3	50/60 Hz	HARDWIRED Optional: NEMA IEC-309 16A
ACRP500	600 mm	Up to 70 kW	Yes	200–240V	3	50/60 Hz	HARDWIRED
ACRP501	600 mm	Up to 70 kW	Yes	460–480V	3	50/60 Hz	HARDWIRED
ACRP502	600 mm	Up to 70 kW	Yes	380–415V	3	50/60 Hz	HARDWIRED

Overview

The modular, row-based computer room cooling solutions offers efficient, predictable, and economical cooling for a variety of spaces.

Critical environmental requirements now reach far beyond the confines of the traditional data center or computer room to encompass a larger suite of applications, referred to as technology rooms. Critical environment applications include:

- Computer rooms
- Telecommunication facilities
- Clean rooms
- Power equipment
- Medical equipment rooms
- Archives
- LAN/WAN environments

A worldwide network of Schneider Electric representatives is fully qualified to provide engineering, sales, installation, and service for our products.

Capacity

The InRow™ Chilled Water (CW) configuration is available in two sizes with a capacity that is up to 70 kW based on the particular application of the unit.

Room air distribution

Row-based systems are placed in line with rack enclosures. At least one system is used per hot aisle. Air is drawn in through the rear of the system, cooled, and discharged into the cold aisle.

The InRow CW air conditioner delivers high volumes of airflow to eliminate hot spots in densely populated environments.

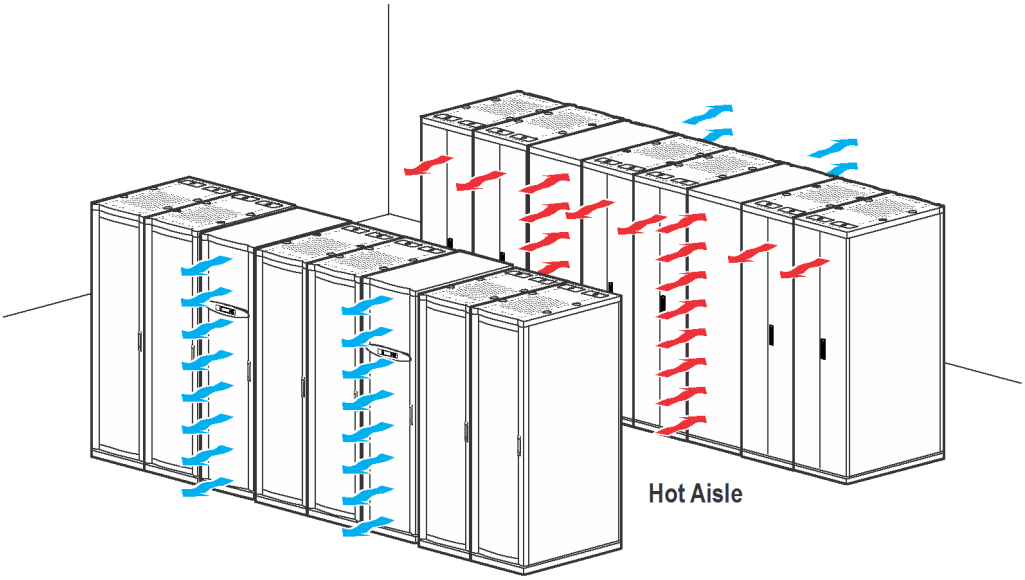
Compliance approval

Agency	ACRC301S	ACRC301H	ACRC500	ACRC501	ACRC502	ACRP500	ACRP501	ACRP502
UL&cUL	X	X	X	X	X	X	X	
C-Tick	X	X			X			X
CE	X	X	X		X	X		X
VDE			X	X	X	X	X	X

Scalable Solutions for Critical Environments

Advantages of row-based cooling

InRow cooling products improve energy efficiency and cooling ability in a number of ways. First, the InRow CW air conditioner draws air directly from the hot aisle, allowing the InRow unit to take advantage of higher heat transfer efficiency due to higher temperature differences. It can then discharge room-temperature air directly in front of the servers it is cooling. This increases energy efficiency by allowing the chiller to operate at higher leaving water temperatures. Placing the cooling unit in the row enables the unit to operate at higher return and supply air temperatures yielding 100% sensible capacity, which significantly reduces the need for humidification.



Scalable for High Density

The predictable performance of the row-based architecture makes it well-suited for high density applications. The focus on heat removal instead of cold air delivery is the key to making this approach scalable. The design of the InRow CW air conditioner allows it to be easily added in the row as the demand for cooling increases.

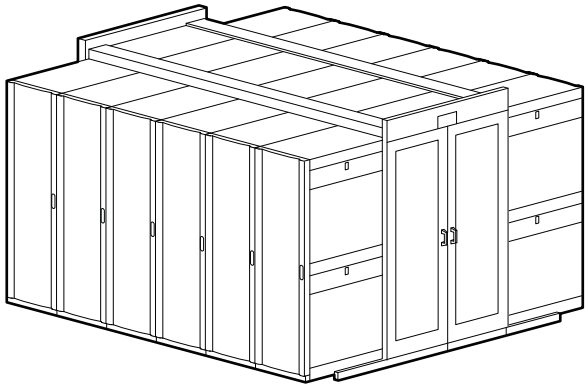
The additional benefit of the row-based architecture is the ability to add hot air containment. Containing the hot air further reduces any chance of hot and cold air streams mixing. This provides ultimate predictability and allows the cooling capacity to be matched to the IT heat load.

EcoAisle™ Aisle Containment System

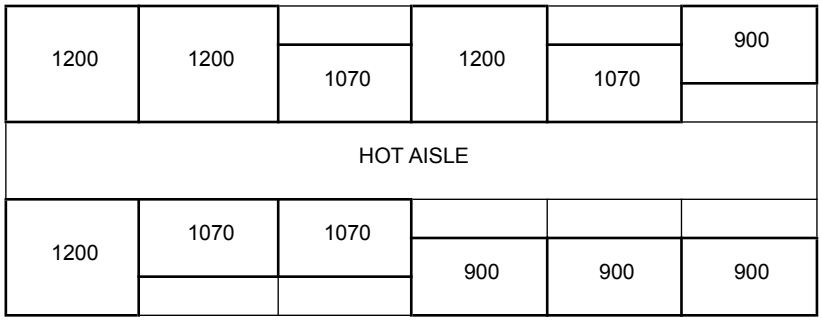
Modular ceiling tiles and doors/curtains can be used to enclose the hot aisle. This increases the densities that can be handled in a single rack enclosure by eliminating mixing of hot and cold air streams. This method, called load neutralization, removes the heat from the hot aisle, cools it, and then returns it to the surrounding room area. The warmer return air temperatures that are achieved in this application increase the capacity of the air conditioner and, in many cases, eliminate the need for make-up humidification.

Use of modular ceiling tiles across a 3- to 6-ft. hot aisle that connects two opposite rack enclosures makes expansion quick and simple. Expansion kits, with the necessary ceiling tile and all baying hardware, can be ordered to increase the size of the hot aisle. The end doors/curtains can be easily removed and re-attached for expansion.

The enclosed hot aisle prevents any warm return air from mixing with cooler supply air. In effect, all surrounding room air can act as supply air to the system. The EcoAisle aisle containment system is beneficial in any environment. It can be deployed quickly in any controlled space without expensive additions to the infrastructure, such as raised floor or ductwork.



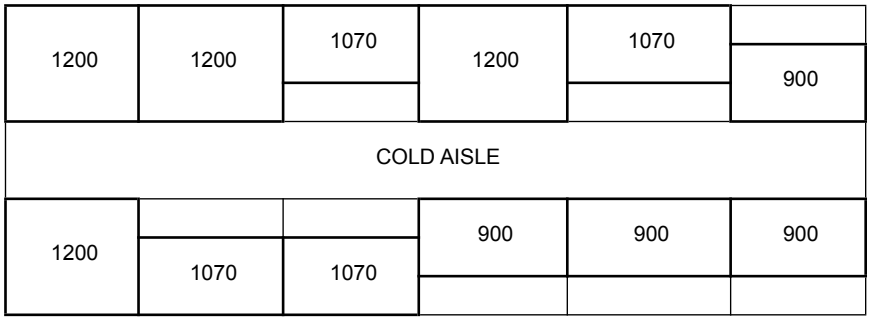
Hot aisle containment dimensions



	Nominal Aisle Width						
Hot Aisle - Middle or End of Aisle, Frame to Frame, With Depth Extenders	914 (36.00)	991 (39.00)	991 (39.00)	991 (39.00)	1291 (50.83)	1291 (50.83)	1591 (50.83)
		--	991 (39.00)	991 (39.00)	1161 (45.71)	1161 (45.71)	1461 (45.71)
		--	--	991 (39.00)	1161 (45.71)	1161 (45.71)	1331 (52.40)
		--	--	--	--	--	--
		--	--	--	--	--	--
		--	--	--	--	--	
	1219 (48.00)	1296 (51.02)	1296 (51.02)	1296 (51.02)	1596 (62.83)	1596 (62.83)	1896 (74.65)
		--	1296 (51.02)	1296 (51.02)	1466 (57.75)	1466 (57.75)	1766 (69.53)
		--	--	1296 (51.02)	1466 (57.75)	1466 (57.75)	1636 (64.41)
		--	--	--	1296 (51.02)	1296 (51.02)	1596 (62.84)
		--	--	--	--	1296 (51.02)	1466 (57.75)
		--	--	--	--	--	1296 (51.02)
	1524 (60.00)	1600 (63.00)	1600 (63.00)	1600 (63.00)	1900 (74.80)	--	--
		--	1600 (63.00)	1600 (63.00)	1770 (69.69)	1770 (69.69)	--
		--	--	1600 (63.00)	1770 (69.69)	1770 (69.69)	--
		--	--	--	1600 (63.00)	1600 (63.00)	1900 (74.80)
		--	--	--	--	1600 (63.00)	1770 (69.69)
		--	--	--	--	--	1600 (63.00)
	1829 (72.00)	1905 (75.00)	1905 (75.00)	1905 (75.00)	--	--	--
		--	1905 (75.00)	1905 (75.00)	--	--	--
		--	--	1905 (75.00)	--	--	--
		--	--	--	1905 (75.00)	1905 (75.00)	--
		--	--	--	--	1905 (75.00)	--
		--	--	--	--	--	1905 (75.00)

* All dimensions shown in millimeters (inches).

Cold aisle containment dimensions



	Nominal Aisle Width						
Cold Aisle - Middle of Aisle, Frame to Frame, With Depth Extenders	914 (36)	991 (39)	1121 (44.13)	1251 (49.25)	--	1121 (44.13)	--
		--	991 (39.00)	1121 (44.13)	--	1121 (44.13)	--
		--	--	991 (39.00)	--	--	--
		--	--	--	--	--	--
		--	--	--	--	--	--
		--	--	--	--	--	--
	1219 (48)	1296 (51.02)	1426 (56.14)	1556 (61.26)	1296 (51.02)	1426 (56.14)	1296 (51.02)
		--	1296 (51.02)	1426 (56.14)	1296 (51.02)	1426 (56.14)	1296 (51.02)
		--	--	1296 (51.02)	1166 (45.91)	1296 (51.02)	1296 (51.02)
		--	--	--	1296 (51.02)	1426 (56.14)	1296 (51.02)
		--	--	--	--	1296 (51.02)	1296 (51.02)
		--	--	--	--	--	1296 (51.02)
	1524 (60)	1600 (63.00)	1730 (68.11)	1860 (73.23)	1600 (63.00)	1730 (68.11)	1600 (63.00)
		--	1600 (63.00)	1730 (68.11)	1600 (63.00)	1730 (68.11)	1600 (63.00)
		--	--	1600 (63.00)	1470 (57.88)	1600 (63.00)	1600 (63.00)
		--	--	--	1600 (63.00)	1730 (68.11)	1600 (63.00)
		--	--	--	--	1600 (63.00)	1600 (63.00)
		--	--	--	--	--	1600 (63.00)
	1829 (72)	1905 (75.00)	2035 (80.12)	2165 (85.24)	1905 (75.00)	--	1905 (75.00)
		--	1905 (75.00)	2035 (80.18)	1905 (75.00)	--	1905 (75.00)
		--	--	1905 (75.00)	1775 (69.88)	1905 (75.00)	1905 (75.00)
		--	--	--	1905 (75.00)	--	1905 (75.00)
		--	--	--	--	1905 (75.00)	1905 (75.00)
		--	--	--	--	--	1905 (75.00)

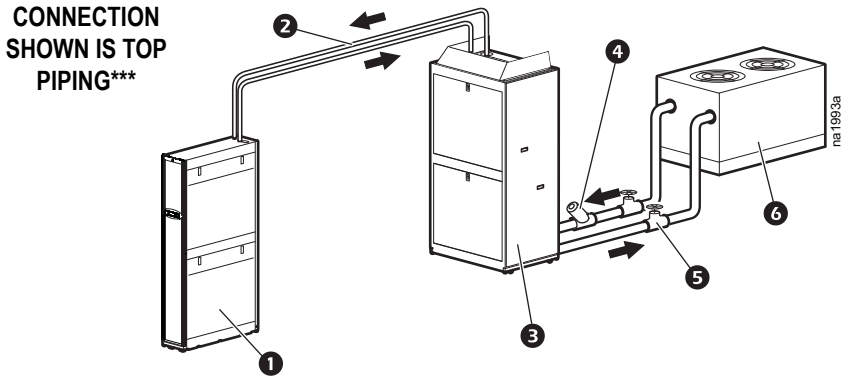
Cold Aisle - End of Aisle, Frame to Frame, No Depth Extenders	914 (36.00)	991 (39.00)	991 (39.00)	991 (39.00)	--	--	--
	1219 (48.00)	1296 (51.02)	1296 (51.02)	1296 (51.02)	1296 (51.02)	1296 (51.02)	1296 (51.02)
	1524 (60.00)	1600 (63.00)	1600 (63.00)	1600 (63.00)	1600 (63.00)	1600 (63.00)	1600 (63.00)
	1829 (72.00)	1905 (75.00)	1905 (75.00)	1905 (75.00)	1905 (75.00)	1905 (75.00)	1905 (75.00)

* All dimensions shown in millimeters (inches).

Configurations

Chilled water systems utilize water from a chiller plant for cooling. Chilled water is commonly used in large buildings and high rises and can serve multiple indoor units, which can be cost effective for large installation options. There are various methods for chilled water piping.

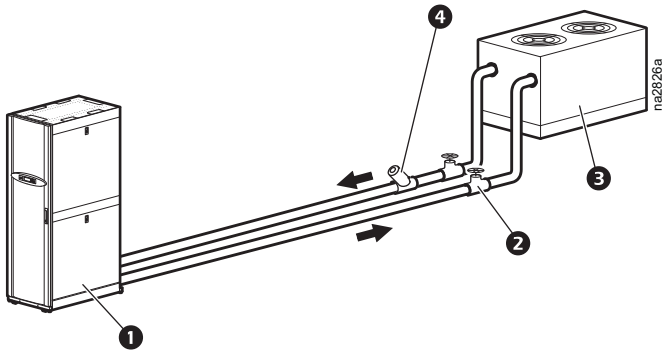
Connection to chiller through CDU



Item	Description	Item	Description
❶	InRow RC	❹	Strainer**
❷	Interconnecting PEX-AL-PEX Piping*	❺	Valve**
❸	Cooling Distribution Unit (CDU)* (ACRC301S only)	❻	Chiller

Note: Install isolation valves and particulate strainers with 20 mesh stainless steel screen (opening size = 865 micron) in the supply line between the chiller and CDU. For more information, see the InRow Installation Manual.
*PEX-AL-PEX Piping and CDU are optional products available through Schneider Electric. For more information, see the CDU Technical Data Manual.
**Piping between Chiller and CDU will vary based on local codes and site conditions.
***Top piping connection is an optional configuration for this unit: bottom piping is the standard configuration.

Direct connection to chiller



Item	Description	Item	Description
❶	InRow RC	❸	Chiller
❷	Valve	❹	Strainer

Note: Install isolation valves and particulate strainers with 20 mesh stainless steel screen (opening size = 865 micron) in the supply line between the chiller and RC.

Standard Features and Options

Standard features

Insulated side panels	The frame is constructed of 16 gauge formed steel for maximum strength. Cabinet is serviceable from the front and rear. All exterior panels and corner posts on the frame are powder coated for durability and an attractive finish. Front and rear exterior panels are constructed of 18 gauge perforated steel with 84% open free area. Insulation is 80.1 kg/m^3 (5 lb/ft^3) density and complies with ASTM E84 rating of 25/50. All panels, which include a key latch for safety and security, allow easy access and removal.
Variable speed fans	Each unit is equipped with variable speed fans. In order to provide uniform airflow over the cooling coil, the fans provide a draw-through air pattern. Quiet, low maintenance, and producing very low vibration, fans are controlled through a signal from the microprocessor controller that constantly adjusts airflow to match the heat load in the Data Center without need for VFD (Variable Frequency Drive). In ACRC301S and ACRC301H units, the fans are easily replaceable while the unit is in operation.
Shutdown input/alarm output	The unit provides one field connection input for remote shutdown and four field connections for an alarm output.
Chilled water flow meter	An internal flow meter is integrated with the microprocessor controller to display the chilled water flow rate of the unit.
2-way/3-way valve	A fully modulating valve is microprocessor-controlled to regulate the amount of chilled water into the cooling coil to maintain optimal cooling conditions. The standard valve pressure rating is 2068 kPa (300 PSI). The valve is user configurable to be two-way or three-way
Fan power supply (ACRC301 series only)	The unit includes two fan power supplies, each capable of running ACRC301S and ACRC301H units at fan speeds of 75% in the event of a single power supply failure.
Primary/secondary power feeds	The system features two power feeds. This allows a level of system fault tolerance and uninterruptible cooling. Each feed powers 100% of the unit.
Cross circuited cooling coil	Designed for high sensible heat ratios, the coil is constructed with copper tubes, aluminum fins, and galvanized steel end plates.
Washable filter	The filtration of conditioned air is extremely vital to maintaining the clean, particle-free environment required by electrical equipment. The system uses a <20% efficiency ASHRAE 52.1, 12.7 mm (1/2 in.) washable filter that meets HF-1 standards for electronics (MERV 1 per ASHRAE 52.2).

30% ASHRAE 52.1 filter (ACRC500/ACRP500 series only)	The filtration of conditioned air is extremely vital to maintaining the clean, particle-free environment required by electrical equipment. The system uses a 30% efficient, 102 mm (4 in), deep loading, pleated filter. Deeper filters produce a lower pressure drop, requiring less energy during normal operation. The filter is moisture resistant up to a 100% relative humidity. Filters are easily replaceable from the rear of the unit. (MERV 8 per ASHRAE 52.2, EN779 G4)
Selectable top or bottom piping connections	Note:Unit includes both top and bottom piping connections. Top piping connects to internal piping connectors and routes piping upward out of the unit. Bottom piping connects to internal piping connectors and routes piping downward out of the unit. All connections are unions for ease of installation and service. Note: Top piping for ACRC301S and ACRC301H is available as an optional kit.
Dual float condensate management (Does not include ACRC301H)	The factory-installed condensate pump is piped internally to the condensate pan. Dual floats are included with the unit. One float is used for condensate pump control, the other to generate condensate pan overflow alarms. For technical specifications, see “Performance Data—General” on page 61.
Network management	Permits multi-level access to monitoring, control, and event notification features over the user’s network.
Service notifications (ACRC301 series only)	Several components within the unit will provide a warning that service is needed. There are multiple faults that can be detected and reported (see “Alarms” on page 15). Notification is also provided when a service interval expires.
Bay kit InRow RC/NetShelter SX	Joining kits made of 16 gauge metal enable joining of the cooling system to NetShelter SX enclosures.
Remote temperature sensor	To control the unit based on rack inlet temperature, one remote sensor is provided with ACRC301S and ACRC301H units (factory-wired) and three remote sensors are provided with ACRC500/ACRP500 series units (field-wired).
4.3-in. touch screen (ACRC301S and ACRC301H only)	High-definition screen displays more data. Provides easy-to-read system status information.
Casters	Allows for the unit to be moved easily.
Easy-access electrical box (ACRC301S and ACRC301H only)	Slide-out electrical box enables maintenance without removing the unit from the row.
Active Flow Controller Compatibility (ACRC301S and ACRC301H only)	Monitors pressure inside and outside the contained aisle and adjusts cooling unit fan speed to match the airflow with that of the IT equipment.

Optional features

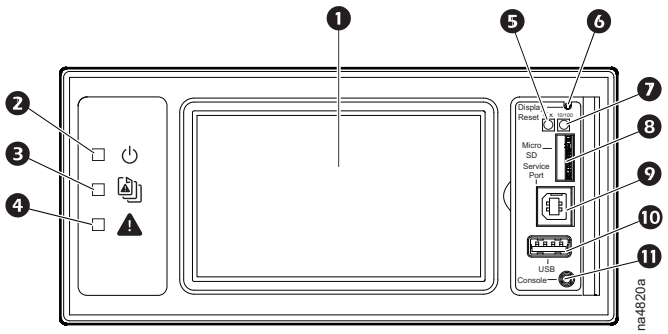
Cable water detector	A leak detection cable for 300-mm units (NBES0308 and NBES0309) or 600-mm units (AP9325 and AP9326) is placed on the floor or sub-floor around all possible leak sources. If water or other conductive liquids contact the cable anywhere along its length, the microprocessor controller visually and audibly announces a leak. The 6.1-m (20-ft) cable may be cascaded to make custom lengths up to 24.4 m (80 ft).
Network cable	Various lengths of network cable are available to ship with your cooling system. The network cable is used to interconnect multiple cooling units in a redundant group, as well as to connect the network management card to your local area network (LAN).
Power trough	Overhead power distribution between adjacent NetShelter racks allows for removal of the InRow RC unit without disrupting overhead power cabling.
Data partition	Overhead cable distribution between adjacent NetShelter racks allows for removal of the InRow RC unit without disrupting overhead cabling.
Height adapters	To match the height of the InRow RC unit to various rack heights, height adapters are available for NetShelter 42-U VX, 45-U SX, and 48-U SX racks.
Depth extender	Used to match the depth of the InRow RC unit to deeper racks.
Rack Air Containment	The Containment Solution isolates the airflow of individual racks and InRow cooling units from the whole IT environment, increasing efficiency while allowing for high density deployment.
Aisle Containment	The Containment Solution isolates pods (two rows of racks sharing a common aisle) from the whole IT environment, increasing cooling efficiency at any density. For details, see “EcoAisle™ Aisle Containment System” on page 4.
Upper piping kit	Available for top-piping configurations and can be field installed. Note:Pre-installed in ACRC500 and ACRP500RP series units.
Dew point control pump (ACRC301H only)	The condensate control pump allows the unit to recirculate coil water to keep the unit operating above dew point.
Disposable pleated filter (ACRC301S and ACRC301H only)	The filtration of conditioned air is extremely vital to maintaining the clean, particle-free environment required by electrical equipment. As an optional feature, the system uses a 50.8-mm (2-in) pleated, deep-loading, 30% ASHRAE 52.1 filter (MERV 8 per ASHRAE 52.2).

85% ASHRAE 52.1 filter (ACRC500/ACRP500 series only)	Electrical equipment requires clean, particle free air, thus making the filtration of the air extremely important. Optionally, the system uses an 85% efficient, 102-mm (4-in.), deep loading, pleated filter. Deeper filters produce a lower pressure drop, requiring less energy during normal operation. The 100% synthetic media will not absorb moisture and is resistant to most common chemicals. The filter is moisture resistant up to a 100% relative humidity. Filters are easily replaceable from the rear of the unit. (MERV 13 per ASHRAE 52.2, EN779 F7).

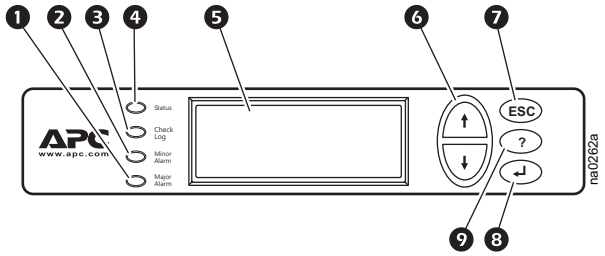
Microprocessor Controller

The microprocessor controller user interface allows the unit to be turned on or off and displays the configuration and condition of the unit.

ACRC301S/ACRC301H



Item	Description	Function
❶	LCD display	4.3-in. touch-screen color display.
❷	Power LED	The cooling unit is powered when the LED is illuminated. Unit firmware is updating when LED is blinking.
❸	Check Log LED	When this LED is illuminated, a new entry has been made to the event log.
❹	Alarm LED	Displays current alarm condition of unit.
❺	Status LED	Displays current network management card status.
❻	Link-RX/TX (10/100) LED	Displays current network link status.
❼	Display Reset button	Resets the display microprocessor. This has no effect on the air conditioner controller.
❽	Micro SD card slot	Memory card expansion slot.
❾	Service port	USB-B port used only by service personnel.
❿	USB-A port	Supports firmware upgrades.
⓫	Serial Configuration port	Connects the display to a local computer to configure initial network settings or access the command line interface (CLI).



Item	Function
❶ Major Alarm LED	When lit, a major alarm condition exists.
❷ Minor Alarm LED	When lit, a minor alarm condition exists.
❸ Check Log LED	When lit, at least one new major alarm or minor alarm or event has occurred.
❹ Status LED	When lit, the Module is on.
❺ Liquid Crystal Display (LCD)	View alarms, status data, instructional help, and configuration items.
❻ Up and down arrow keys	Select menu items and access information.
❼ ESC key	Return to previous screen.
❽ ENTER key	Open menu items and input changes to System and Module settings.
❾ HELP key	Display context-sensitive help. Press the HELP key for information about each option on the screen and for instructions on how to perform tasks.

Microprocessor controller

The microprocessor controller is standard on each system. The controller provides precision control for the demanding requirements of the following environments:

- Data centers
- Control rooms
- Clean rooms
- Switch rooms
- UPS rooms

The easy-to-use display interface allows the operator to select options from the menu-driven interface to control and monitor the connected air conditioning system.

Open architecture

The InRow CW protocol is open for integration with all building management systems. Communication interface on the system can be Modbus RS485 or Ethernet.

Control type

The controller utilizes proportional/integral/derivative (PID) settings, a time-proven precision environmental control method. This allows for custom tuning of control variables to achieve optimal system response.

Functions

- Supply and Return Air Conditions
- Operational Mode Control
- Data Logging (ACRC301 series)
- Event Logging
- Alarms
- Redundant Group Control
- Fan Speed Adjustment
- Input/Output Module Programming

Logging

The event log keeps a record of all alarms and events. Each event log contains a time/date stamp as well as operating conditions at the time of occurrence. The controller also displays run time, in hours, for major components (air filters, fans, power supplies, and condensate pump).

The data log displays measurements about the cooling unit, the power input to the cooling unit, and the ambient temperature of the cooling unit.

Control

The touch-screen LCD display interface provided on ACRC301S/ACRC301H units is protected by a configurable password and provides access to information and settings for the unit.

- Supply Temperature Setpoint 15–30.2°C (59–86.4°F)
- Cool Setpoint 18–35°C (64.4–95°F)
- Rack Inlet High Temperature Threshold 10–65.6°C (50–150.1°F)
- Entering Chilled Water High Temperature Threshold 1.7–37.8°C (35–100°F)
- Supply Air High Temperature Threshold 10–65.6°C (50–150.1°F)
- Return Air High Temperature Threshold 10–65.6°C (50–150.1°F)

The backlit, four-line by twenty-character display interface provided on the ACRC500/ACRP500 series units is protected by a configurable password.

- Supply Temperature Setpoint 15–30.2°C (59–86.4°F)
- Rack Inlet Temperature Setpoint 18–32°C (64.4–90°F)
- Rack Inlet High Temperature Alarm 0–100°C (32–212°F)
- CW Inlet High Temperature Alarm 0–37.7°C (32–100°F)
- Air Supply Temperature High Alarm 0–100°C (32–212°F)
- Return Temperature High Alarm 0–100°C (32–212°F)

Alarms

The microprocessor controller shall activate a visible and audible alarm in the following occurrences:

- Active Flow Controller sensor fault
- Air filter clogged
- Air filter run hours violation
- Check condensate management system
- Chilled water flow meter fault
- Chilled water valve actuator fault
- Chilled water valve control not set to automatic
- Coil chilled water temperature sensor error
- Coil condensation possible
- Condensate pan full (excluding ACRC301H)
- Controller power supply X fault
- Cool fail
- EcoAisle door open
- Entering chilled water high temperature high violation
- Entering/leaving chilled water temperature sensor fault
- Factory configuration not completed
- Fan X error
- Fan power supply X current sense fault
- Fan power supply X fault (ACRC301 series only)
- Filter differential pressure sensor fault
- Humidity sensor fault
- Input contact fault
- Insufficient airflow
- Internal communication fault
- Lower return air/supply air sensor fault
- Primary/secondary power source fail
- Rack high temperature condition
- Rack temperature sensor X error
- Return air/supply air high temperature violation
- Shutdown due to input contact
- Unexpected number of AFCs/leak detectors/rack inlet temperature sensors/units in group
- Unit is in maintenance mode
- Unit service required
- Upper return air/supply air sensor fault
- Water detected fault/shutdown

ACRC500/ACRP500 series only

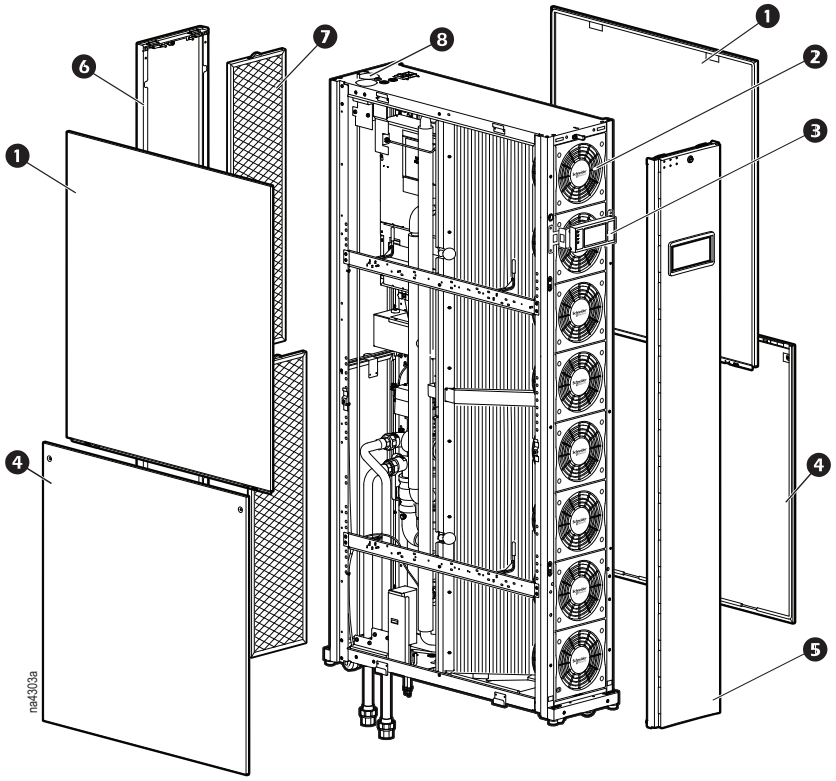
- Fan run hours exceeded
- Condensate run hours exceeded
- Group communication fault
- Invalid supply setpoint
- Link isolation relay fault

ACRP500 series only

- Humidifier water conductivity high
- Humidifier fault tolerance exceeded
- Humidifier low water
- Humidifier excessive output reduction
- Humidifier drain fault
- Humidifier cylinder full
- Humidifier replace cylinder
- Humidifier RS485 communication fault
- Humidity high/low violation
- Supply humidity sensor fault
- Return humidity sensor fault
- Heater fault
- Heater run hours exceeded

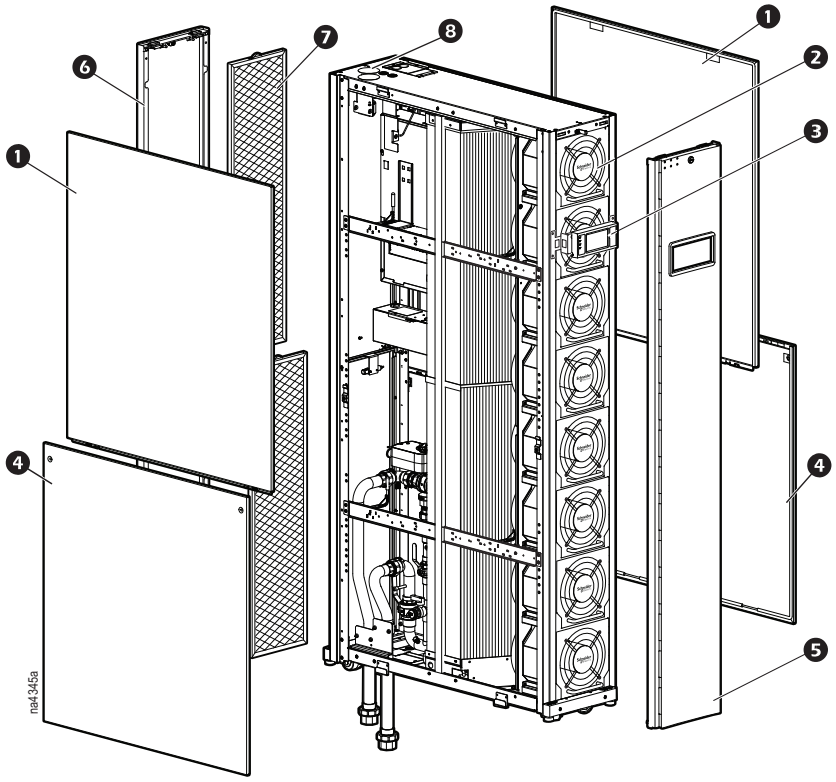
InRow ACRC301S/ACRC301H Models

External components - ACRC301S



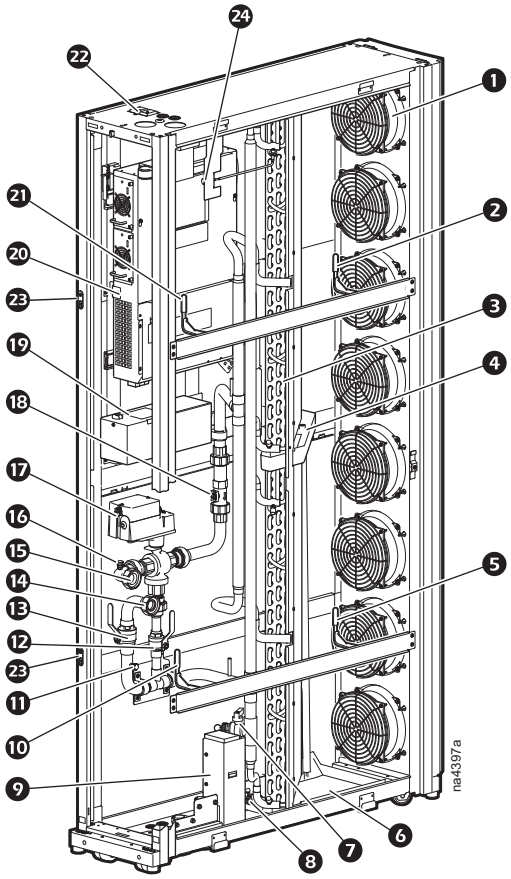
Item	Description
❶	Upper side panels
❷	Fans
❸	Display interface
❹	Lower side panels
❺	Front panel
❻	Rear panel
❼	Air filters
❽	Upper piping installation holes

External components - ACRC301H



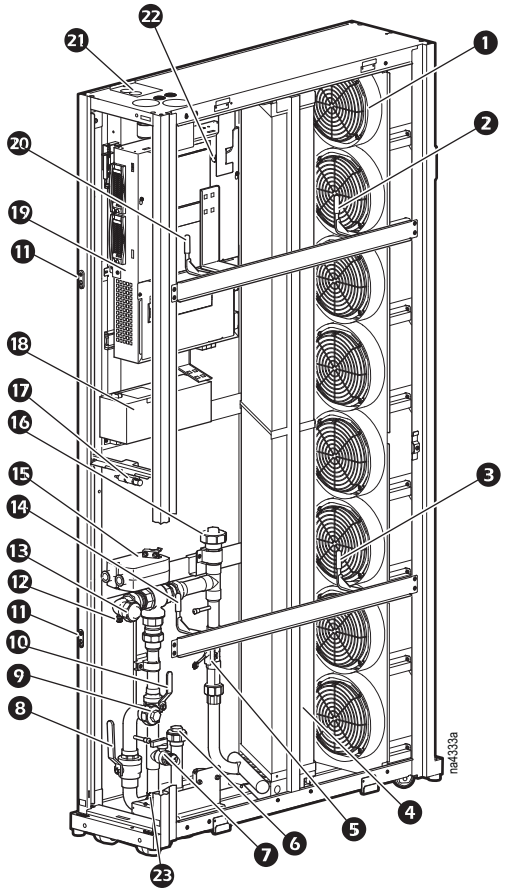
Item	Description
❶	Upper side panels
❷	Fans
❸	Display interface
❹	Lower side panels
❺	Front panel
❻	Rear panel
❼	Air filters
❽	Upper piping installation holes

Internal components - ACRC301S



Item	Description	Item	Description
❶	Fan	⓭	Inlet shutoff valve (1 in.)
❷	Supply air temperature sensor, top	⓮	Pipe connection, water inlet
❸	Coil	⓯	Pipe connection, water outlet
❹	Condensate drain pan, top	⓰	Schrader valve (outlet water pressure test)
❺	Supply air temperature sensor, bottom	⓱	3-way actuator valve
❻	Condensate drain pan, bottom	⓲	Flow meter
❼	Drain valve	⓳	Auto-transfer switch (ATS) box
❽	Condensate drain pan float switch	⓴	Electrical box
❾	Condensate pump	㉑	Return air temperature sensors
❿	Return air temperature sensor, bottom	㉒	Power cord connections, top
⓫	Schrader valve (inlet water pressure test)	㉓	Rack joining brackets
⓬	2-way–(3/4-in.) bypass shut-off valve	㉔	Schrader valve (air purging)

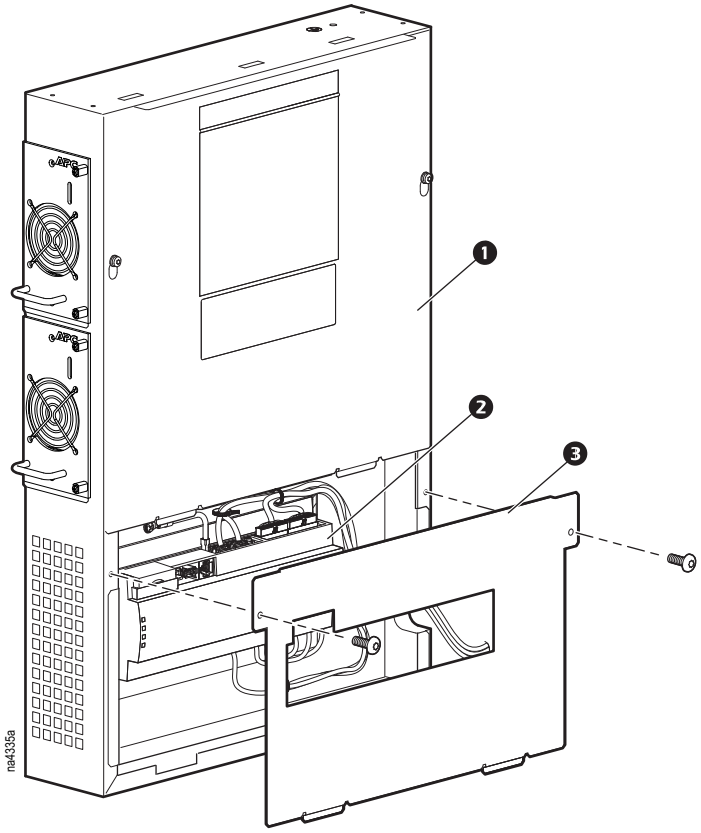
Internal components - ACRC301H



Item	Description
❶	Fan
❷	Supply air temperature sensor, top
❸	Supply air temperature sensor, bottom
❹	Coil
❺	Flow meter
❻	Bottom pipe connection for optional recirculation pump
❼	Drain valve
❽	Inlet shutoff valve (1 1/4-in.)
❾	Pipe connection, water inlet
❿	2-way valve (1-in.) bypass shut-off
⓫	Rack joining brackets
⓬	Schrader valve (outlet water pressure test)

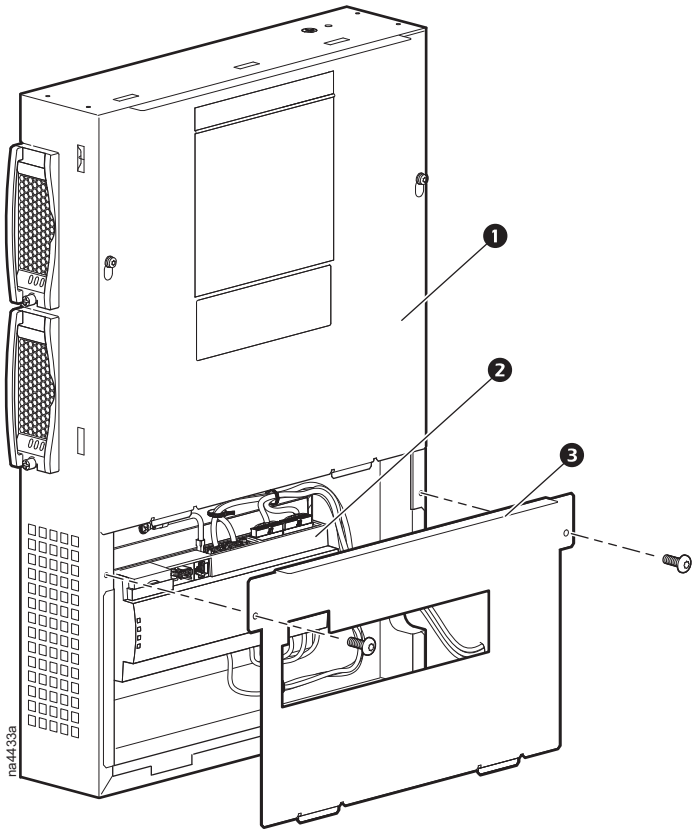
Item	Description
⓭	Pipe connection, water outlet
⓮	Return air temperature sensor, bottom
⓯	3-way valve actuator
⓰	Top pipe connection for optional recirculation pump
⓱	Humidity sensor
⓲	Auto transfer switch (ATS) box
⓳	Electrical box
⓴	Return air temperature sensor, top
㉑	Junction box, top position
㉒	Schrader valve (air purging)
㉓	Schrader valve (inlet water pressure test)

User interface connection panel - ACRC301S



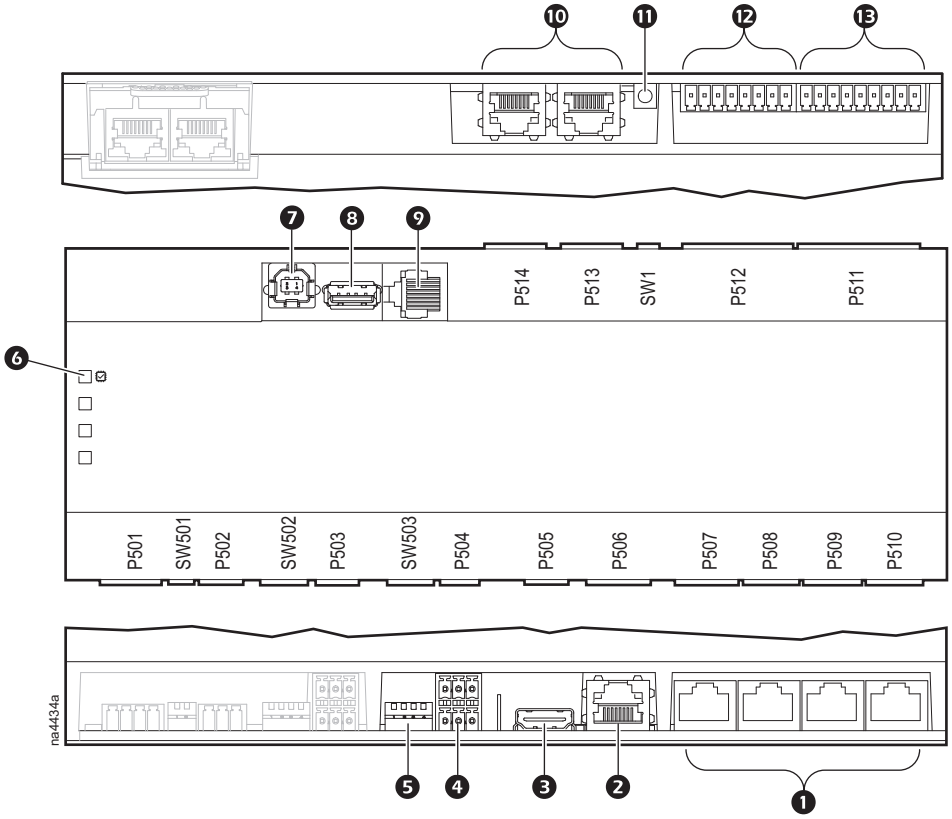
Item	Description
❶	Upper electrical box cover
❷	User interface connection panel
❸	Control module cover

User interface connection panel - ACRC301H



Item	Description
❶	Upper electrical box cover
❷	User interface connection panel
❸	Control module cover

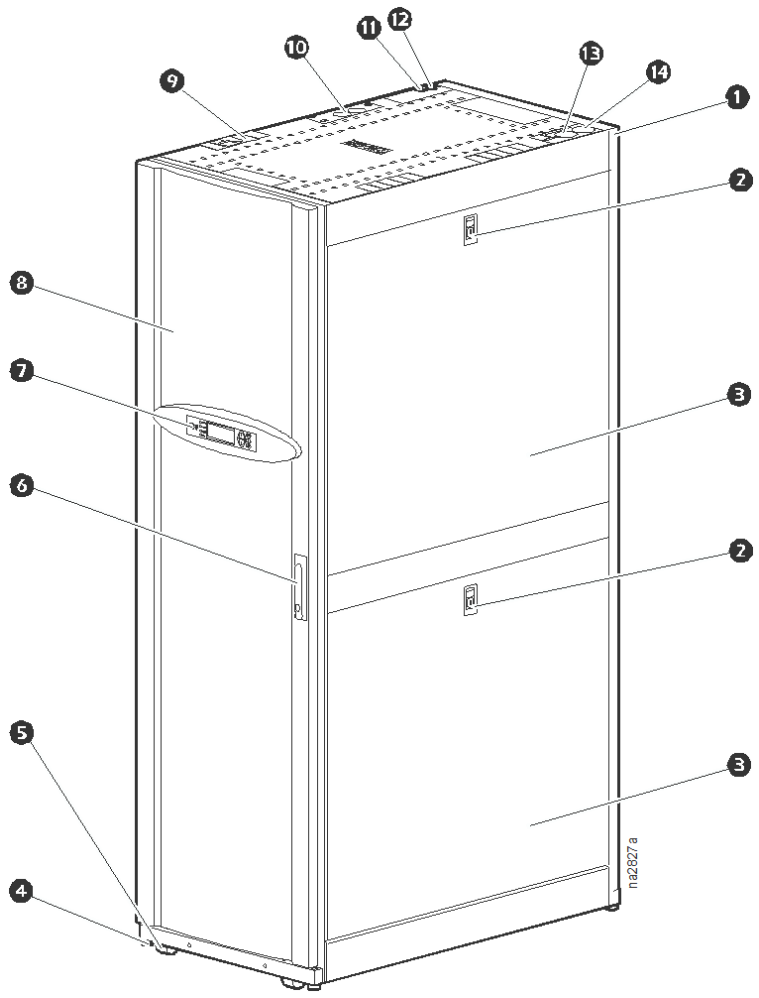
Interface connection



Item	Description	Item	Description
❶	Universal sensor ports	❽	USB host port
❷	Network connection	❾	Serial port
❸	Touchscreen display connection	❿	A-Link port
❹	ModBus connection	⓫	Reset button
❺	ModBus configuration switches	⓬	Output relay 4/standby input
❻	Processor status LED	⓭	Output relay 1–3
❼	USB device port		

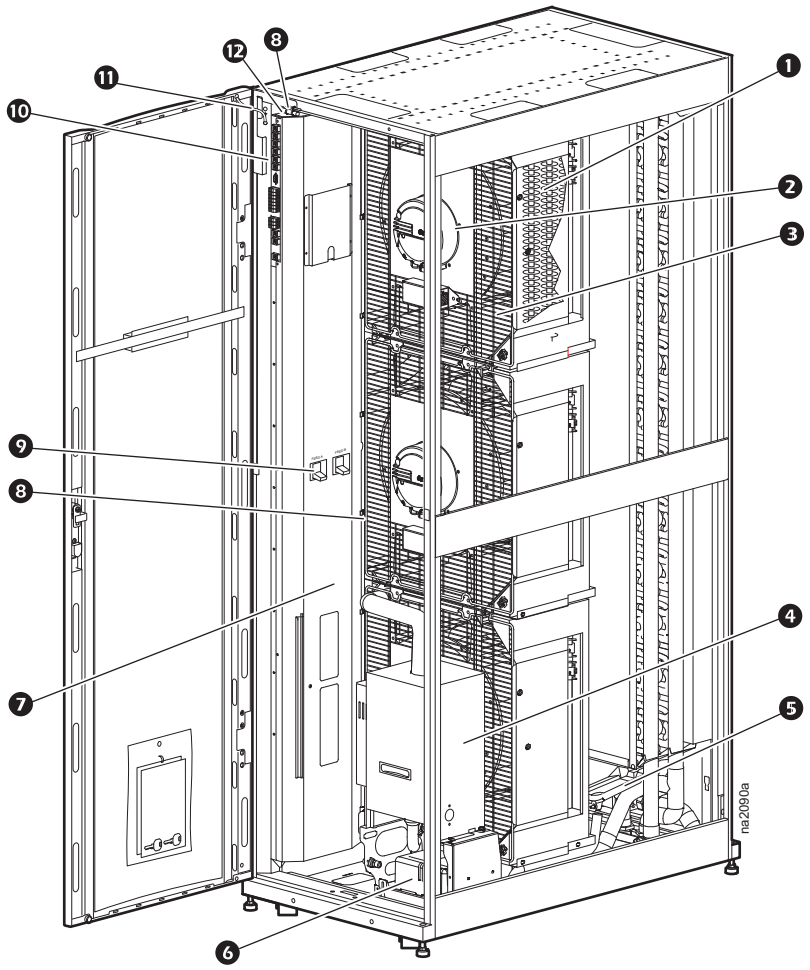
InRow ACRC500/ACRP500 Series

External components



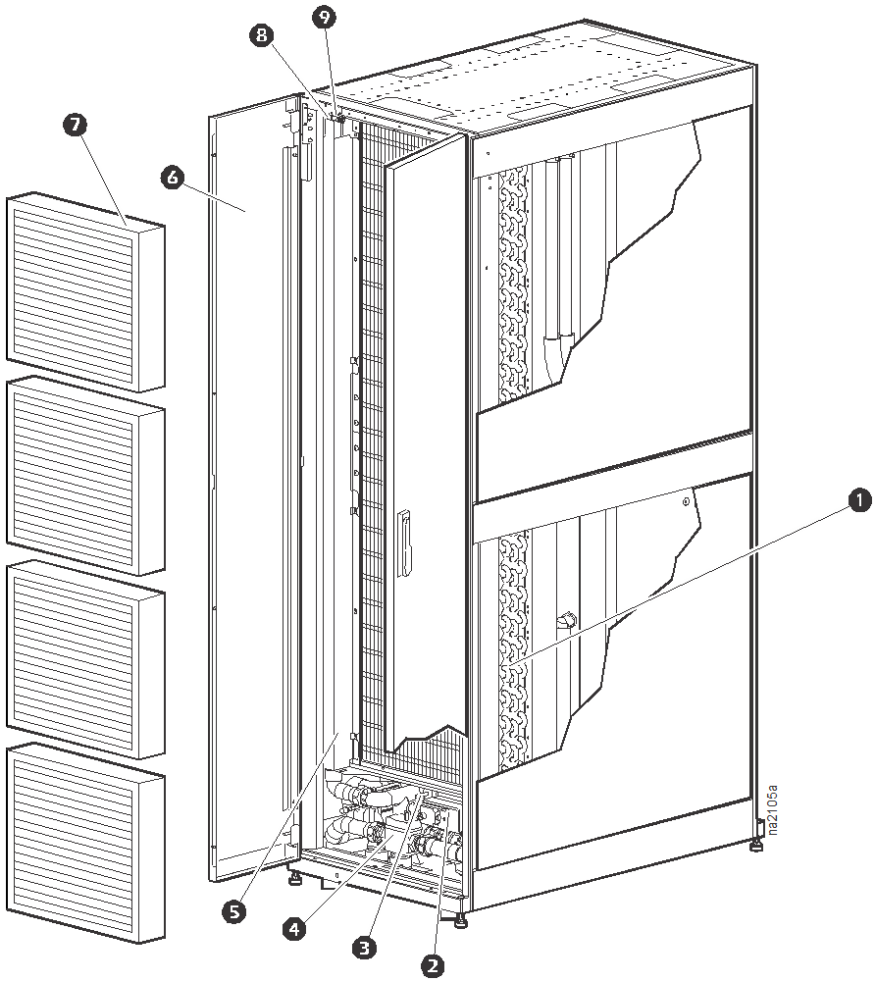
Item	Description	Item	Description
❶	Removable rear doors	❽	Removable front door
❷	Side panel lock	❾	Top access for customer network wiring
❸	Removable side panel	❿	Top power connection
❹	Adjustable leveling foot	⓫	Top humidifier supply (ACRP series only)
❺	Caster	⓬	Top condensate drain
❻	Door handle and lock	⓭	Top supply (inlet)
❼	Display interface	⓮	Top return (outlet)

Internal mechanical components (front)



Item	Description	Item	Description
❶	Electric heater (ACRP500 series only)	❼	Electrical panel
❷	Fan	❽	Supply air temperature sensors
❸	Fan guard	❾	Main feed breakers
❹	Humidifier (ACRP500 series only)	❿	User interface connectors
❺	Condensate drain pan	⓫	Ground wire
❻	Condensate pump	⓬	Supply humidity sensor

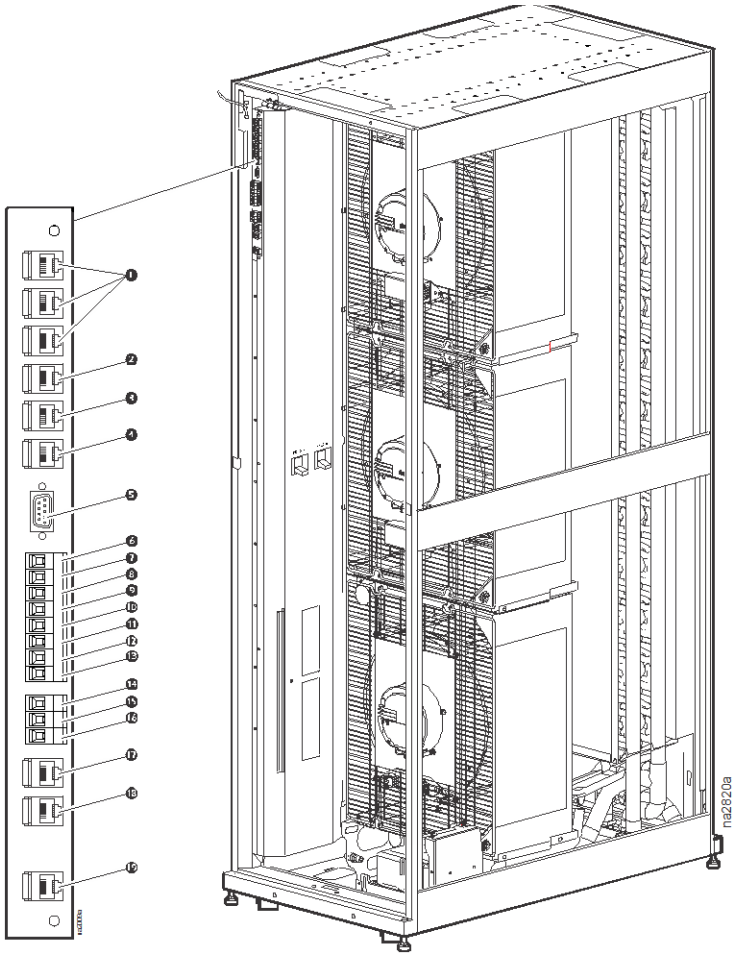
Internal mechanical components (rear)



Item	Description
❶	Chilled water coil
❷	Chilled water control actuator and three-way valve
❸	Sensor
❹	Flow meter
❺	Pipe chase

Item	Description
❻	Rear doors
❼	Air filters
❽	Return humidity sensor (ACRP500 series only)
❾	Return temperature sensor

User interface connection

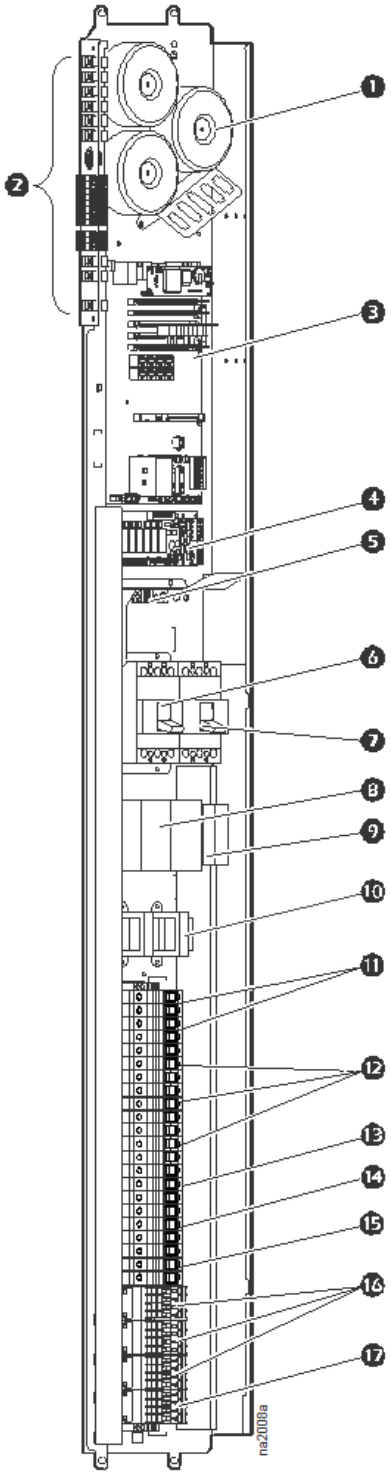


Item	Description	Item	Description
❶	Rack inlet temperature sensors 1, 2, 3	⓫	Supply 24 V DC (current limit: 20 mA)
❷	A-Link IN	⓬	Customer input + (12–30 V AC/V DC, 24 V DC @ 11 mA)
❸	A-Link OUT	⓭	Customer input - (12–30 V AC/V DC, 24 V DC @ 11 mA)
❹	Network port	⓮	Modbus D1
❺	Console port	⓯	Modbus D0
❻	Customer output, NC (Normally Closed)	⓰	Modbus GND
❼	Customer output, COM (Common)	⓱	Supply air temperature sensor (front)
❽	Customer output, NO (Normally Open)	⓲	Supply air humidity sensor (front) (ACRP500 series only)
❾	Supply GND (Ground)	⓳	Display interface
❿	Supply 12 V DC (current limit: 20 mA)		

NOTE: For a top installation, control wiring is routed through the wire channel located at the top-left corner just above the user interface connectors.

NOTE: For a bottom installation, the control wiring is routed to the access hole in the bottom of the equipment through wire clamps from the interface connectors. Then, the wiring is routed down along the electrical panel and secured with wire clamps.

Electrical panel



Item	Description
❶	Transformers
❷	User interface connectors
❸	Main controller board
❹	Relay board
❺	Ground lug
❻	Main circuit breaker — power feed A
❼	Main circuit breaker — power feed B
❽	Automatic transfer switch (ATS) contactors
❾	ATS timers
❿	ATS transformer (ACRP501/ACRC501 only)
⓫	ATS circuit breakers
⓬	Fan circuit breakers
⓭	Controller circuit breaker
⓮	Humidifier circuit breaker (ACRP500 series only)
⓯	Heater circuit breaker (ACRP500 series only)
⓰	Heater contactors (ACRP500 series only)
⓱	Humidifier contactor (ACRP500 series only)

Determining Cooling Capacity

IT equipment requires two acceptable limits in order for effective cooling to occur. These parameters are inlet air temperature and flow rate of air through the IT equipment. It is entirely possible, though undesirable, to design a computer room with enough heat removal capacity, but with an inadequate volumetric flow rate of cool air supply. When this condition exists, IT equipment will be subjected to excessively high operating temperatures on a localized basis due to recirculation, and cooling equipment will operate at less than optimal efficiency. Schneider Electric provides the necessary data to prevent this undesirable situation. The first table, titled "Recommended Capacity Limitations," shows the capacity limits based on air flow of the InRow RC. The following tables, titled "Performance Specifications", show the recommended maximum amount of load that should be placed upon the cooling unit solely based on heat removal capability. The lesser of the two capacity numbers obtained from the "Recommended Capacity Limitations" table and "Performance Specification" table should be considered the maximum load capable of being served by the InRow RC. A definition of the terms in these tables follows:

IT equipment air flow (kW/CFM and kW/l/s) — The average cooling air flow rate demanded by IT equipment in liters per second (cubic feet per minute) divided by the total actual power dissipation of IT equipment in kilowatts.

Recommended capacity limit (kW) —The corresponding maximum load in kilowatts capable of being served by the cooling unit solely based on conservation of volumetric air flow.

DB (°C and °F) — The dry bulb temperature in degrees Fahrenheit and Celsius of the return air stream to the cooling unit.

WB (°C and °F) — The wet bulb temperature in degrees Fahrenheit and Celsius of the return air stream to the cooling unit.

CW delta T (°C and °F) — The difference in temperature in degrees Fahrenheit and Celsius between chilled water entering and exiting the cooling unit.

Sensible net capacity (kW and BTU/hr) — The sensible net heat removal capacity of fan heat, of the cooling unit at stated operating conditions.

Total net capacity (kW and BTU/hr) — The total (sensible + latent) net heat removal capacity of fan heat, of the cooling unit at stated operating conditions.

Sensible heat ratio (SHR) — The sensible heat ratio of the unit at stated conditions. Sensible Heat Ratio is the ratio of sensible capacity to total capacity.

CW flow rate (l/s and GPM) — The volumetric flow rate of chilled water through the cooling unit in gallons per minute, and liters per second, that is required to result in the stated performance. For base loads, ACRC301S units should not have a flow rate greater than 1.3l/s (20.8 GPM), ACRC301H units should not have a flow rate greater than 1.95 l/s (30.9 GPM), and ACRC500/ACRP500 series units should not have a flow rate greater than 2.08 l/s (33 GPM); peak loads may exceed these flow rates by up to 25 percent for short time spans.

Total CW pressure drop (kPa and ft H_2O) — The differential pressure observed between inlet and outlet chilled water connections for the stated CW flow rate.

Recommended Capacity Limitations

ACRC301S

IT Equipment ΔT	IT Equipment Air Flow	Recommended Capacity Limit
°C (°F)	l/s per kW (CFM/kW)	kW
5.56 (10)	150 (317)	10.1
8.33 (15)	100 (211)	15.1
11.11 (20)	75 (158)	20.3
13.89 (25)	60 (128)	25.0
16.67 (30)	50 (107)	30.0
19.44 (35)	43 (92)	34.7
22.22 (40)	38 (81)	39.7
25 (45)	34 (72)	44.7

ACRC301H

IT Equipment ΔT	IT Equipment Air Flow	Recommended Capacity Limit
°C (°F)	l/s per kW (CFM/kW)	kW
5.56 (10)	150 (317)	13.3
8.33 (15)	100 (211)	19.9
11.11 (20)	75 (158)	26.5
13.89 (25)	60 (128)	32.9
16.67 (30)	50 (107)	39.4
19.44 (35)	43 (92)	45.6
22.22 (40)	38 (81)	52.1
25 (45)	34 (72)	58.6

ACRC500/ACRP500 series

IT Equipment ΔT	IT Equipment Air Flow	Recommended Capacity Limit
°C (°F)	l/s per kW (CFM/kW)	kW
11.0 (19.8)	75.5 (160)	43
11.3 (20.4)	73.2 (155)	45
11.7 (21.1)	70.8 (150)	46
12.1 (21.8)	68.4 (145)	48
12.5 (22.6)	66.1 (140)	49
13.0 (23.4)	63.7 (135)	51
13.5 (24.3)	61.4 (130)	53
14.1 (25.3)	59.0 (125)	55
14.6 (26.4)	56.6 (120)	58
15.3 (27.5)	54.3 (115)	60
15.9 (28.7)	51.9 (110)	63
16.7 (30.1)	49.6 (105)	66
17.5 (31.6)	47.2 (100)	69

ACRC301S

Performance Specifications 5°C (41°F) EWT

Temperature DB, WB °C (°F)	CW Delta T °C (°F)	Total Net Capacity	Sensible Net Capacity	Sensible Heat Ratio	CW Flow Rate	Total CW Pressure Drop
		kW (BTU/hr)	kW (BTU/hr)	SHR	l/s (GPM)	kPa (ft H2O)
26.7°C DB, 17.1°C WB (80°F DB,63°F WB)						
	5.5°C (10°F)	21.3 (73000)	20.9 (71000)	0.98	0.97 (15.4)	49.8 (16.7)
	6.6°C (12°F)	19.5 (67000)	19.1 (65000)	0.98	0.71 (11.3)	29.3 (9.8)
	7.7°C (14°F)	18.0 (62000)	17.7 (60000)	0.98	0.59 (9.3)	20.5 (6.9)
	8.8°C (16°F)	16.6 (57000)	16.3 (56000)	0.98	0.48 (7.6)	13.9 (4.7)
	10°C (18°F)	15.3 (52000)	15.0 (51000)	0.98	0.39 (6.2)	9.1 (3.0)
	11.1°C (20°F)	14.1 (48000)	13.8 (47000)	0.98	0.33 (5.2)	6.0 (2.0)
29.4°C DB, 18.1°C WB (85°F DB, 65°F WB)						
	5.5°C (10°F)	24.8 (85000)	24.3 (83000)	0.98	1.13 (17.9)	64.5 (21.6)
	6.6°C (12°F)	23.0 (78000)	22.5 (77000)	0.98	0.86 (13.6)	41.0 (13.7)
	7.7°C (14°F)	21.4 (73000)	21 (72000)	0.98	0.69 (11.0)	27.5 (9.2)
	8.8°C (16°F)	20.0 (68000)	19.6 (67000)	0.98	0.57 (9.0)	19.2 (6.5)
	10°C (18°F)	18.7 (64000)	18.4 (63000)	0.98	0.48 (7.5)	13.7 (4.6)
	11.1°C (20°F)	17.5 (60000)	17.2 (59000)	0.98	0.40 (6.4)	9.7 (3.3)
32.2°C DB, 18.9°C WB (90°F DB, 66°F WB)						
	5.5°C (10°F)	28.2 (96000)	27.6 (94000)	0.98	1.27 (20.1)	79.5 (26.7)
	6.6°C (12°F)	26.3 (90000)	25.7 (88000)	0.98	0.97 (15.4)	49.8 (16.7)
	7.7°C (14°F)	24.8 (85000)	24.3 (83000)	0.98	0.80 (12.7)	35.5 (11.9)
	8.8°C (16°F)	23.4 (80000)	23.0 (78000)	0.98	0.66 (10.5)	25.5 (8.5)
	10°C (18°F)	22.1 (75000)	21.7 (74000)	0.98	0.56 (8.8)	18.5 (6.2)
	11.1°C (20°F)	20.9 (71000)	20.5 (70000)	0.98	0.48 (7.5)	13.7 (4.6)
35°C DB, 19.8°C WB (95°F DB, 68°F WB)						
	6.6°C (12°F)	29.7 (101000)	29.1 (99000)	0.98	1.08 (17.1)	61.9 (20.7)
	7.7°C (14°F)	28.3 (96000)	27.7 (95000)	0.98	0.91 (14.4)	44.2 (14.8)
	8.8°C (16°F)	26.9 (92000)	26.4 (90000)	0.98	0.76 (12.0)	32.3 (10.8)
	10°C (18°F)	25.6 (87000)	25.0 (85000)	0.98	0.64 (10.2)	23.9 (8.0)
	11.1°C (20°F)	24.31 (83000	23.8 (81000)	0.98	0.55 (8.7)	18.1 (6.1)
37.78°C DB, 20.7°C WB (100°F DB, 69°F WB)						
	6.6°C (12°F)	33.2 (113000)	32.5 (111000)	0.98	1.23 (19.5)	75.5 (25.3)
	7.7°C (14°F)	31.7 (108000)	31.1 (106000)	0.98	1.02 (16.1)	54.1 (18.1)
	8.8°C (16°F)	30.2 (103000)	29.6 (101000)	0.98	0.85 (13.5)	39.5 (13.2)
	10°C (18°F)	28.9 (99000)	28.3 (97000)	0.98	0.72 (11.5)	29.6 (9.9)
	11.1°C (20°F)	27.7 (95000)	27.2 (93000)	0.98	0.63 (9.9)	22.9 (7.7)
40.50°C DB, 21.5°C WB (105°F DB, 71°F WB)						
	7.7°C (14°F)	34.8 (119000)	34.1 (116000)	0.98	1.11 (17.6)	63.1 (21.1)
	8.8°C (16°F)	33.5 (114000)	32.8 (112000)	0.98	0.94 (14.9)	46.8 (15.7)
	10°C (18°F)	32.1 (110000)	31.5 (107000)	0.98	0.80 (12.7)	35.5 (11.9)
	11.1°C (20°F)	31.0 (106000)	30.3 (104000)	0.98	0.70 (11.0)	27.7(9.3)

Temperature DB, WB °C (°F)	CW Delta T °C (°F)	Total Net Capacity	Sensible Net Capacity	Sensible Heat Ratio	CW Flow Rate	Total CW Pressure Drop
		kW (BTU/hr)	kW (BTU/hr)	SHR	l/s (GPM)	kPa (ft H2O)
43.33°C DB, 22.4°C WB (110°F DB, 72°F WB)						
	7.7°C (14°F)	38.5 (131000)	37.8 (12900)	0.98	1.24 (19.6)	75.8 (25.4)
	8.8°C (16°F)	37.0 (126000)	36.3 (124000)	0.98	1.04 (16.4)	55.7 (18.7)
	10°C (18°F)	35.7 (122000)	35.0 (119000)	0.98	0.89 (14.1)	42.6 (14.3)
	11.1°C (20°F)	34.5 (118000)	33.8 (115000)	0.98	0.78 (12.3)	33.5 (11.2)
46.11°C DB, 23.3°C WB (115°F DB, 74°F WB)						
	8.8°C (16°F)	40.5 (138000)	39.6 (135000)	0.98	1.13 (17.9)	64.7 (21.7)
	10°C (18°F)	39.1 (133000)	38.3 (131000)	0.98	0.97 (15.4)	49.7 (16.7)
	11.1°C (20°F)	37.9 (129000)	37.2 (127000)	0.98	0.85 (13.5)	39.4 (13.2)
48.89°C DB, 23.9°C WB (120°F DB, 75°F WB)						
	8.8°C (16°F)	43.9 (150000)	43.0 (147000)	0.98	1.22 (19.4)	74.4 (24.9)
	10°C (18°F)	42.6 (145000)	41.7 (142000)	0.98	1.05 (16.7)	57.2 (19.2)
	11.1°C (20°F)	41.4 (141000)	40.6 (138000)	0.98	0.93 (14.7)	45.8 (15.4)

Note: Any CW flow rate of 3.0 GPM-5.0 GPM may have increased error in Flow Rate and Power Calculation. A Fluid Flow Fault may result. Any flow rate under 3.0 GPM may also display as 0 in Flow Rate and Power Calculation.

Performance Specifications 7.2°C (45°F) EWT (ACRC301S)

Temperature DB, WB °C (°F)	CW Delta T °C (°F)	Total Net Capacity	Sensible Net Capacity	Sensible Heat Ratio	CW Flow Rate	Total CW Pressure Drop
		kW (BTU/hr)	kW (BTU/hr)	SHR	l/s (GPM)	kPa (ft H2O)
26.7°C DB, 17.1°C WB (80°F DB, 63°F WB)						
	5.5°C (10°F)	18.4 (63000)	18.2 (62000)	0.99	0.84 (13.3)	38.7 (13.0)
	6.6°C (12°F)	16.6 (57000)	16.5 (56000)	0.99	0.62 (9.8)	22.3 (7.5)
	7.7°C (14°F)	15.2 (52000)	15.1 (51000)	0.99	0.50 (8.0)	15.2 (5.1)
	8.8°C (16°F)	13.8 (47000)	13.7 (47000)	0.99	0.40 (6.3)	9.6 (3.2)
	10°C (18°F)	12.6 (43000)	12.5 (43000)	0.99	0.33 (5.2)	6.1 (2.1)
	11.1°C (20°F)	11.5 (39000)	11.4 (39000)	0.99	0.27 (4.3)	3.7 (1.2)
29.4°C DB, 18.1°C WB (85°F DB, 65°F WB)						
	5.5°C (10°F)	21.8 (74000)	21.6 (74000)	0.99	0.99 (15.8)	51.9 (17.4)
	6.6°C (12°F)	19.8 (68000)	19.6 (67000)	0.99	0.76 (12.0)	32.3 (10.8)
	7.7°C (14°F)	18.7 (64000)	18.5 (63000)	0.99	0.61 (9.6)	21.7 (7.3)
	8.8°C (16°F)	17.3 (59000)	17.2 (59000)	0.99	0.50 (7.9)	14.8 (5.0)
	10°C (18°F)	16.1 (55000)	15.9 (54000)	0.99	0.41 (6.5)	10.2 (3.4)
	11.1°C (20°F)	14.9 (51000)	14.7 (50000)	0.99	0.34 (5.4)	6.8 (2.3)
32.2°C DB, 18.9°C WB (90°F DB, 66°F WB)						
	5.5°C (10°F)	25.2 (86000)	25.0 (85000)	0.99	1.14 (18.1)	65.7 (22.0)
	6.6°C (12°F)	23.5 (80000)	23.3 (79000)	0.99	0.87 (13.8)	41.3 (13.9)
	7.7°C (14°F)	22.1 (75000)	21.9 (75000)	0.99	0.72 (11.4)	29.2 (9.8)
	8.8°C (16°F)	20.7 (71000)	20.5 (70000)	0.99	0.59 (9.3)	20.5 (6.9)
	10°C (18°F)	19.5 (66000)	19.3 (66000)	0.99	0.49 (7.8)	14.6 (4.9)
	11.1°C (20°F)	18.3 (62000)	18.1 (62000)	0.99	0.42 (6.6)	10.6 (3.5)
35°C DB, 19.8°C WB (95°F DB, 68°F WB)						
	5.5°C (10°F)	28.7 (98000)	28.4 (97000)	0.99	1.29 (20.5)	81.7 (27.4)
	6.6°C (12°F)	27.0 (92000)	26.7 (91000)	0.99	0.99 (15.7)	51.4 (17.2)
	7.7°C (14°F)	25.5 (87000)	25.3 (86000)	0.99	0.82 (13.1)	37.3 (12.5)
	8.8°C (16°F)	24.2 (83000)	24.0 (82000)	0.99	0.69 (10.9)	27.0 (9.1)
	10°C (18°F)	22.9 (78000)	22.7 (77000)	0.99	0.58 (9.1)	19.7 (6.6)
	11.1°C (20°F)	21.7 (74000)	21.5 (73000)	0.99	0.49 (7.8)	14.7 (4.9)
37.78°C DB, 20.7°C WB (100°F DB, 69°F WB)						
	6.6°C (12°F)	30.4 (104000)	30.1 (103000)	0.99	1.13 (17.9)	65.0 (21.8)
	7.7°C (14°F)	28.9 (99000)	28.6 (98000)	0.99	0.93 (14.8)	46.5 (15.6)
	8.8°C (16°F)	27.5 (94000)	27.3 (93000)	0.99	0.78 (12.3)	33.6 (11.3)
	10°C (18°F)	26.3 (90000)	26.0 (89000)	0.99	0.66 (10.4)	25.0 (8.4)
	11.1°C (20°F)	25.1 (86000)	24.9 (85000)	0.99	0.57 (9.0)	19.1 (6.4)
40.50°C DB, 21.5°C WB (105°F DB, 71°F WB)						
	6.6°C (12°F)	33.6 (115000)	33.3 (114000)	0.99	1.25 (19.8)	77.3 (25.9)
	7.7°C (14°F)	32.1 (110000)	31.8 (109000)	0.99	1.03 (16.3)	55.1 (18.5)
	8.8°C (16°F)	30.8 (105000)	30.5 (104000)	0.99	0.87 (13.7)	10.7 (13.7)
	10°C (18°F)	29.6 (101000)	29.3 (100000)	0.99	0.74 (11.7)	30.8 (10.3)
	11.1°C (20°F)	28.4 (97000)	28.1 (96000)	0.99	0.64 (10.1)	23.8 (8.0)

Temperature DB, WB °C (°F)	CW Delta T °C (°F)	Total Net Capacity	Sensible Net Capacity	Sensible Heat Ratio	CW Flow Rate	Total CW Pressure Drop
		kW (BTU/hr)	kW (BTU/hr)	SHR	l/s (GPM)	kPa (ft H2O)
43.33°C DB, 22.4°C WB (110°F DB, 72°F WB)						
	7.7°C (14°F)	35.8 (122000)	35.4 (121000)	0.99	1.15 (18.2)	66.9 (22.4)
	8.8°C (16°F)	34.4 (117000)	34.0 (116000)	0.99	0.96 (15.3)	49.1 (16.5)
	10°C (18°F)	33.1 (113000)	32.8 (112000)	0.99	0.82 (13.0)	37.1 (12.5)
	11.1°C (20°F)	31.9 (109000)	31.6 (108000)	0.99	0.72 (11.4)	29.2 (9.8)
46.11°C DB, 23.3°C WB (115°F DB, 74°F WB)						
	7.7°C (14°F)	39.2 (134000)	38.8 (132000)	0.99	1.26 (20.0)	78.3 (26.3)
	8.8°C (16°F)	37.8 (129000)	37.4 (128000)	0.99	1.06 (16.8)	57.7 (19.3)
	10°C (18°F)	36.5 (124000)	36.1 (123000)	0.99	0.90 (14.3)	43.9 (14.7)
	11.1°C (20°F)	35.3 (120000)	35.0 (119000)	0.99	0.79 (12.5)	34.8 (11.7)
48.89°C DB, 23.9°C WB (120°F DB, 75°F WB)						
	8.8°C (16°F)	41.2 (141000)	40.8 (140000)	0.99	1.15 (18.2)	66.8 (22.4)
	10°C (18°F)	39.9 (136000)	39.5 (135000)	0.99	0.99 (15.7)	51.3 (17.2)
	11.1°C (20°F)	38.8 (132000)	38.4 (131000)	0.99	0.87 (13.8)	40.9 (13.7)

Note: Any CW flow rate of 3.0 GPM-5.0 GPM may have increased error in Flow Rate and Power Calculation. A Fluid Flow Fault may result. Any flow rate under 3.0 GPM may also display as 0 in Flow Rate and Power Calculation.

Performance Specifications 8.8°C (48°F) EWT (ACRC301S)

Temperature DB, WB °C (°F)	CW Delta T °C (°F)	Total Net Capacity	Sensible Net Capacity	Sensible Heat Ratio	CW Flow Rate	Total CW Pressure Drop
		kW (BTU/hr)	kW (BTU/hr)	SHR	l/s (GPM)	kPa (ft H2O)
26.7°C DB, 17.1°C WB (80°F DB,63°F WB)						
	5.5°C (10°F)	16.2 (55000)	16.0 (55000)	0.99	0.75 (11.8)	31.4 (10.5)
	6.6°C (12°F)	14.6 (50000)	14.5 (49000)	0.99	0.56 (8.8)	17.9 (6.0)
	7.7°C (14°F)	13.2 (45000)	13.1 (45000)	0.99	0.44 (7.0)	11.7 (3.9)
	8.8°C (16°F)	11.9 (41000)	11.8 (40000)	0.99	0.35 (5.5)	7.1 (2.4)
	10°C (18°F)	10.7 (37000)	10.6 (36000)	0.99	0.28 (4.4)	4.0 (1.3)
29.4°C DB, 18.1°C WB (85°F DB, 65°F WB)						
	5.5°C (10°F)	19.7 (67000)	19.5 (66000)	0.99	0.90 (14.3)	43.5 (14.6)
	6.6°C (12°F)	18.2 (62000)	18.0 (61000)	0.99	0.69 (10.9)	26.1 (8.8)
	7.7°C (14°F)	16.7 (57000)	16.5 (56000)	0.99	0.55 (8.6)	17.8 (6.0)
	8.8°C (16°F)	15.4 (52000)	15.2 (52000)	0.99	0.44 (7.0)	11.8 (4.0)
	10°C (18°F)	14.2 (48000)	14.0 (48000)	0.99	0.36 (5.8)	7.8 (2.6)
	11.1°C (20°F)	13.0 (44000)	12.8 (44000)	0.99	0.30 (4.8)	4.9 (1.7)
32.2°C DB, 18.9°C WB (90°F DB, 66°F WB)						
	5.5°C (10°F)	23.0 (79000)	22.8 (78000)	0.99	1.04 (16.6)	56.5 (18.9)
	6.6°C (12°F)	21.5 (73000)	21.2 (72000)	0.99	0.82 (13.0)	36.8 (12.3)
	7.7°C (14°F)	20.1 (69000)	19.9 (68000)	0.99	0.65 (10.4)	24.8 (8.3)
	8.8°C (16°F)	18.8 (64000)	18.6 (63000)	0.99	0.54 (8.5)	17.3 (5.8)
	10°C (18°F)	17.5 (60000)	17.4 (59000)	0.99	0.45 (7.1)	12.1 (4.1)
	11.1°C (20°F)	16.4 (56000)	16.2 (55000)	0.99	0.38 (6.0)	8.5 (2.9)
35°C DB, 19.8°C WB (95°F DB, 68°F WB)						
	5.5°C (10°F)	26.5 (91000)	26.3 (90000)	0.99	1.20 (19.0)	71.7 (24.0)
	6.6°C (12°F)	25.0 (85000)	24.8 (85000)	0.99	0.95 (15.1)	46.6 (15.6)
	7.7°C (14°F)	23.6 (80000)	23.3 (80000)	0.99	0.76 (12.1)	32.5 (10.9)
	8.8°C (16°F)	22.3 (76000)	22.0 (75000)	0.99	0.63 (10.0)	23.4 (7.8)
	10°C (18°F)	21.0 (72000)	20.8 (71000)	0.99	0.53 (8.4)	16.9 (5.7)
	11.1°C (20°F)	19.8 (68000)	19.6 (67000)	0.99	0.45 (7.2)	12.3 (4.1)
37.78°C DB, 20.7°C WB (100°F DB, 69°F WB)						
	6.6°C (12°F)	28.5 (97000)	28.2 (96000)	0.99	1.08 (17.0)	59.5 (19.9)
	7.7°C (14°F)	26.9 (92000)	26.7 (91000)	0.99	0.87 (13.8)	41.2 (13.8)
	8.8°C (16°F)	25.6 (87000)	25.3 (86000)	0.99	0.72 (11.5)	29.7 (10.0)
	10°C (18°F)	24.4 (83000)	24.1 (82000)	0.99	0.61 (9.7)	22.0 (7.4)
	11.1°C (20°F)	23.2 (79000)	23.0 (78000)	0.99	0.53 (8.4)	16.7 (5.6)
40.50°C DB, 21.5°C WB (105°F DB, 71°F WB)						
	6.6°C (12°F)	32.1 (109000)	31.8 (108000)	0.99	1.21 (19.2)	72.2 (24.2)
	7.7°C (14°F)	30.2 (103000)	29.9 (102000)	0.99	0.97 (15.4)	49.6 (16.6)
	8.8°C (16°F)	28.9 (99000)	28.6 (98000)	0.99	0.81 (12.9)	36.5 (12.2)
	10°C (18°F)	27.7 (94000)	27.4 (93000)	0.99	0.69 (11.0)	27.5 (9.2)
	11.1°C (20°F)	26.5 (90000)	26.2 (90000)	0.99	0.60 (9.5)	21.1 (7.1)

Temperature DB, WB °C (°F)	CW Delta T °C (°F)	Total Net Capacity	Sensible Net Capacity	Sensible Heat Ratio	CW Flow Rate	Total CW Pressure Drop
		kW (BTU/hr)	kW (BTU/hr)	SHR	l/s (GPM)	kPa (ft H2O)
43.33°C DB, 22.4°C WB (110°F DB, 72°F WB)						
	7.7°C (14°F)	33.8 (115000)	33.4 (114000)	0.99	1.09 (17.2)	60.6 (20.3)
	8.8°C (16°F)	32.4 (111000)	32.1 (110000)	0.99	0.91 (14.4)	44.5 (14.9)
	10°C (18°F)	31.2 (106000)	30.9 (105000)	0.99	0.78 (12.3)	33.7 (11.3)
	11.1°C (20°F)	30.0 (102000)	29.7 (101000)	0.99	0.68 (10.7)	26.4 (8.9)
46.11°C DB, 23.3°C WB (115°F DB, 74°F WB)						
	7.7°C (14°F)	37.2 (127000)	36.8 (126000)	0.99	1.20 (19.0)	71.6 (24.0)
	8.8°C (16°F)	35.8 (122000)	35.5 (121000)	0.99	1.00 (15.9)	52.8 (17.7)
	10°C (18°F)	34.6 (118000)	34.2 (117000)	0.99	0.86 (13.6)	40.2 (13.5)
	11.1°C (20°F)	33.4 (114000)	33.1 (113000)	0.99	0.75 (11.9)	31.8 (10.7)
48.89°C DB, 23.9°C WB (120°F DB, 75°F WB)						
	7.7°C (14°F)	40.7 (139000)	40.3 (137000)	0.99	1.31 (20.7)	83.5 (28.0)
	8.8°C (16°F)	39.3 (134000)	38.9 (133000)	0.99	1.10 (17.4)	61.5 (20.6)
	10°C (18°F)	38.0 (130000)	37.6 (128000)	0.99	0.94 (14.9)	27.2 (15.8)
	11.1°C (20°F)	36.8 (126000)	36.5 (124000)	0.99	0.83 (13.1)	37.5 (12.6)

Note: Any CW flow rate of 3.0 GPM-5.0 GPM may have increased error in Flow Rate and Power Calculation. A Fluid Flow Fault may result. Any flow rate under 3.0 GPM may also display as 0 in Flow Rate and Power Calculation.

Performance Specifications 10°C (50°F) EWT (ACRC301S)

Temperature DB, WB °C (°F)	CW Delta T °C (°F)	Total Net Capacity	Sensible Net Capacity	Sensible Heat Ratio	CW Flow Rate	Total CW Pressure Drop
		kW (BTU/hr)	kW (BTU/hr)	SHR	l/s (GPM)	kPa (ft H2O)
26.7°C DB, 17.1°C WB (80°F DB,63°F WB)						
	5.5°C (10°F)	14.6 (50000)	14.6 (50000)	1.00	0.67 (10.7)	26.2 (8.8)
	6.6°C (12°F)	13.1 (45000)	13.1 (45000)	1.00	0.48 (7.7)	13.6 (4.6)
	7.7°C (14°F)	11.7 (40000)	11.7 (40000)	1.00	0.39 (6.2)	9.2 (3.1)
	8.8°C (16°F)	10.7 (36000)	10.7 (36000)	1.00	0.31 (4.9)	5.2 (1.7)
	10°C (18°F)	9.4 (32000)	9.4 (32000)	1.00	0.25 (4.0)	2.8 (0.9)
29.4°C DB, 18.1°C WB (85°F DB, 65°F WB)						
	5.5°C (10°F)	18.0 (62000)	18.0 (62000)	1.00	0.83 (13.1)	37.6 (12.6)
	6.6°C (12°F)	16.5 (56000)	16.5 (56000)	1.00	0.61 (9.7)	21.6 (7.2)
	7.7°C (14°F)	15.2 (52000)	15.2 (52000)	1.00	0.50 (7.9)	15.0 (5.0)
	8.8°C (16°F)	13.9 (47000)	13.9 (47000)	1.00	0.40 (6.4)	9.8 (3.3)
	10°C (18°F)	12.7 (43000)	12.7 (43000)	1.00	0.33 (5.2)	6.2 (2.1)
	11.1°C (20°F)	11.5 (39000)	11.5 (39000)	1.00	0.27 (4.3)	3.6 (1.2)
32.2°C DB, 18.9°C WB (90°F DB, 66°F WB)						
	5.5°C (10°F)	21.4 (73000)	21.4 (73000)	1.00	0.97 (15.4)	50.1 (16.8)
	6.6°C (12°F)	19.9 (68000)	19.9 (68000)	1.00	0.74 (11.7)	31.0 (10.4)
	7.7°C (14°F)	18.6 (63000)	18.6 (63000)	1.00	0.61 (9.6)	21.7 (7.3)
	8.8°C (16°F)	17.3 (59000)	17.3 (59000)	1.00	0.50 (7.9)	14.8 (5.0)
	10°C (18°F)	16.1 (55000)	16.1 (55000)	1.00	0.41 (6.6)	10.4 (3.5)
	11.1°C (20°F)	15.0 (51000)	15.0 (51000)	1.00	0.34 (5.5)	6.9 (2.3)
35°C DB, 19.8°C WB (95°F DB, 68°F WB)						
	5.5°C (10°F)	24.9 (85000)	24.9 (85000)	1.00	1.13 (17.9)	64.5 (21.6)
	6.6°C (12°F)	23.5 (80000)	23.5 (80000)	1.00	0.87 (13.8)	40.8 (13.7)
	7.7°C (14°F)	22.1 (75000)	22.1 (75000)	1.00	0.72 (11.3)	29.1 (9.8)
	8.8°C (16°F)	20.8 (71000)	20.8 (71000)	1.00	0.59 (9.4)	20.7 (7.0)
	10°C (18°F)	19.6 (67000)	19.6 (67000)	1.00	0.49 (7.8)	14.8 (5.0)
	11.1°C (20°F)	18.4 (63000)	18.4 (63000)	1.00	0.42 (6.7)	10.7 (3.6)
37.78°C DB, 21.5°C WB (100°F DB, 71°F WB)						
	5.5°C (10°F)	28.2 (96000)	28.2 (96000)	1.00	1.27 (20.2)	79.8 (26.8)
	6.6°C (12°F)	26.6 (91000)	26.6 (91000)	1.00	1.00 (15.9)	52.7 (17.7)
	7.7°C (14°F)	25.4 (87000)	25.4 (87000)	1.00	0.82 (13.0)	37.3 (12.5)
	8.8°C (16°F)	24.1 (82000)	24.1 (82000)	1.00	0.68 (10.8)	26.8 (9.0)
	10°C (18°F)	22.9 (78000)	22.9 (78000)	1.00	0.58 (9.2)	19.8 (6.7)
	11.1°C (20°F)	21.8 (74000)	21.8 (74000)	1.00	0.49 (7.8)	14.7 (4.9)
40.50°C DB, 21.5°C WB (105°F DB, 71°F WB)						
	6.6°C (12°F)	29.6 (101000)	29.6 (101000)	1.00	1.12 (17.7)	64.1 (21.5)
	7.7°C (14°F)	28.7 (98000)	28.7 (98000)	1.00	0.92 (14.6)	45.6 (15.3)
	8.8°C (16°F)	27.4 (94000)	27.4 (94000)	1.00	0.77 (12.3)	33.5 (11.2)
	10°C (18°F)	26.2 (90000)	26.2 (90000)	1.00	0.66 (10.4)	25.1 (8.4)
	11.1°C (20°F)	25.1 (86000)	25.1 (86000)	1.00	0.57 (9.0)	19.2 (6.4)

Temperature DB, WB °C (°F)	CW Delta T °C (°F)	Total Net Capacity	Sensible Net Capacity	Sensible Heat Ratio	CW Flow Rate	Total CW Pressure Drop
		kW (BTU/hr)	kW (BTU/hr)	SHR	l/s (GPM)	kPa (ft H2O)
43.33°C DB, 22.4°C WB (110°F DB, 72°F WB)						
	6.6°C (12°F)	33.5 (114000)	33.5 (114000)	1.00	1.26 (20.0)	78.9 (38.7)
	7.7°C (14°F)	32.3 (110000)	32.3 (110000)	1.00	1.04 (16.5)	56.0 (18.8)
	8.8°C (16°F)	31.0 (106000)	31.0 (106000)	1.00	0.87 (13.8)	41.0 (13.8)
	10°C (18°F)	29.7 (101000)	29.7 (101000)	1.00	0.74 (11.)	31.1 (10.4)
	11.1°C (20°F)	28.6 (98000)	28.6 (98000)	1.00	0.64 (10.2)	24.0 (8.1)
46.11°C DB, 23.3°C WB (115°F DB, 74°F WB)						
	7.7°C (14°F)	35.7 (122000)	35.7 (122000)	1.00	1.15 (18.2)	66.6 (22.3)
	8.8°C (16°F)	34.4 (117000)	34.4 (117000)	1.00	0.96 (15.3)	49.0 (16.4)
	10°C (18°F)	33.1 (113000)	33.1 (113000)	1.00	0.83 (13.1)	37.5 (12.6)
	11.1°C (20°F)	32.0 (109000)	32.0 (109000)	1.00	0.72 (11.4)	29.2 (9.8)
48.89°C DB, 23.9°C WB (120°F DB, 75°F WB)						
	7.7°C (14°F)	39.1 (134000)	39.1 (134000)	1.00	1.26 (19.9)	78.0 (26.2)
	8.8°C (16°F)	37.8 (129000)	37.7 (129000)	1.00	1.06 (16.7)	57.6 (19.3)
	10°C (18°F)	36.5 (125000)	36.5 (125000)	1.00	0.91 (14.4)	44.2 (14.8)
	11.1°C (20°F)	35.4 (121000)	35.4 (121000)	1.00	0.79 (12.6)	35.0 (11.7)

Note: Any CW flow rate of 3.0 GPM-5.0 GPM may have increased error in Flow Rate and Power Calculation. A Fluid Flow Fault may result. Any flow rate under 3.0 GPM may also display as 0 in Flow Rate and Power Calculation.

Performance Specifications 12.7°C (55°F) EWT (ACRC301S)

Temperature DB, WB °C (°F)	CW Delta T °C (°F)	Total Net Capacity	Sensible Net Capacity	Sensible Heat Ratio	CW Flow Rate	Total CW Pressure Drop
		kW (BTU/hr)	kW (BTU/hr)	SHR	l/s (GPM)	kPa (ft H2O)
26.7°C DB, 17.1°C WB (80°F DB,63°F WB)						
	5.5°C (10°F)	11.0 (37000)	11.0 (37000)	1.00	0.51 (8.2)	15.9 (5.3)
	6.6°C (12°F)	9.6 (33000)	9.6 (33000)	1.00	0.38 (6.0)	8.5 (2.9)
	7.7°C (14°F)	8.3 (28000)	8.3 (28000)	1.00	0.28 (4.5)	4.2 (1.4)
29.4°C DB, 18.1°C WB (85°F DB, 65°F WB)						
	5.5°C (10°F)	14.4 (49000)	14.4 (49000)	1.00	0.67 (10.6)	25.6 (8.6)
	6.6°C (12°F)	13.1 (45000)	13.1 (45000)	1.00	0.51 (8.1)	15.7 (5.2)
	7.7°C (14°F)	11.8 (40000)	11.8 (40000)	1.00	0.39 (6.3)	9.4 (3.1)
	8.8°C (16°F)	10.6 (36000)	10.6 (36000)	1.00	0.31 (4.9)	5.4 (1.8)
	10°C (18°F)	9.4 (32000)	9.4 (32000)	1.00	0.25 (4.0)	2.7 (0.9)
32.2°C DB, 18.9°C WB (90°F DB, 66°F WB)						
	5.5°C (10°F)	17.8 (61000)	17.8 (61000)	1.00	0.82 (12.9)	36.7 (12.3)
	6.6°C (12°F)	16.6 (56000)	16.6 (56000)	1.00	0.63 (10.0)	23.3 (7.8)
	7.7°C (14°F)	15.2 (52000)	15.2 (52000)	1.00	0.50 (8.0)	15.2 (5.1)
	8.8°C (16°F)	14.1 (48000	14.1 (48000)	1.00	0.41 (6.5)	10.1 (3.4)
	10°C (18°F)	12.9 (44000)	12.9 (44000)	1.00	0.33 (5.3)	6.4 (2.1)
	11.1°C (20°F)	11.7 (40000)	11.7 (40000)	1.00	0.27 (4.3)	3.7 (1.2)
35°C DB, 19.8°C WB (95°F DB, 68°F WB)						
	5.5°C (10°F)	21.3 (73000)	21.3 (73000)	1.00	0.97 (15.4)	49.6 (16.6)
	6.6°C (12°F)	20.0 (68000)	20.0 (68000)	1.00	0.76 (12.0)	32.4 (10.8)
	7.7°C (14°F)	18.7 (64000)	18.7 (64000)	1.00	0.61 (9.7)	22.0 (7.4)
	8.8°C (16°F)	17.5 (60000)	17.5 (60000)	1.00	0.50 (8.0)	15.2 (5.1)
	10°C (18°F)	16.3 (56000)	16.3 (56000)	1.00	0.42 (6.6)	10.5 (3.5)
	11.1°C (20°F)	15.2 (52000)	15.2 (52000)	1.00	0.35 (5.5)	7.2 (2.4)
37.78°C DB, 21.5°C WB (100°F DB, 71°F WB)						
	5.5°C (10°F)	24.6 (84000)	24.6 (84000)	1.00	1.12 (17.7)	63.4 (21.3)
	6.6°C (12°F)	23.4 (80000)	23.4 (80000)	1.00	0.88 (14.0)	42.3 (14.2)
	7.7°C (14°F)	22.1 (75000)	22.1 (75000)	1.00	0.72 (11.4)	29.2 (9.8)
	8.8°C (16°F)	20.9 (71000)	20.9 (71000)	1.00	0.60 (9.4)	20.9 (7.0)
	10°C (18°F)	19.7 (67000)	19.7 (67000)	1.00	0.50 (7.9)	15.0 (5.0)
	11.1°C (20°F)	18.5 (63000)	18.5 (63000)	1.00	0.42 (6.7)	10.8 (3.6)
40.50°C DB, 21.5°C WB (105°F DB, 71°F WB)						
	5.5°C (10°F)	27.9 (95000)	27.9 (95000)	1.00	1.25 (19.9)	77.7 (26.1)
	6.6°C (12°F)	26.9 (92000)	26.9 (92000)	1.00	1.01 (16.0)	53.0 (17.8)
	7.7°C (14°F)	25.4 (87000)	25.4 (87000)	1.00	0.82 (13.0)	37.2 (12.5)
	8.8°C (16°F)	24.2 (83000)	24.2 (83000)	1.00	0.69 (10.9)	27.0 (9.0)
	10°C (18°F)	23.1 (79000)	23.1 (79000)	1.00	0.58 (9.2)	20.1 (6.7)
	11.1°C (20°F)	21.9 (75000)	21.9 (75000)	1.00	0.50 (7.9)	15.0 (5.0)

Temperature DB, WB °C (°F)	CW Delta T °C (°F)	Total Net Capacity	Sensible Net Capacity	Sensible Heat Ratio	CW Flow Rate	Total CW Pressure Drop
		kW (BTU/hr)	kW (BTU/hr)	SHR	l/s (GPM)	kPa (ft H2O)
43.33°C DB, 22.4°C WB (110°F DB, 72°F WB)						
	6.6°C (12°F)	30.3 (103000)	30.3 (103000)	1.00	1.14 (18.0)	65.5 (22.0)
	7.7°C (14°F)	28.9 (99000)	28.9 (99000)	1.00	0.93 (14.8)	46.3 (15.5)
	8.8°C (16°F)	27.7 (94000)	27.7 (94000)	1.00	0.78 (12.4)	34.1 (11.4)
	10°C (18°F)	26.5 (90000)	26.5 (90000)	1.00	0.66 (10.5)	25.5 (8.5)
	11.1°C (20°F)	25.4 (87000)	25.4 (87000)	1.00	0.57 (9.1)	19.5 (6.5)
46.11°C DB, 23.3°C WB (115°F DB, 74°F WB)						
	6.6°C (12°F)	33.7 (115000)	33.7 (115000)	1.00	1.26 (20.0)	78.8 (26.4)
	7.7°C (14°F)	32.3 (110000)	32.3 (110000)	1.00	1.04 (16.5)	56.0 (18.8)
	8.8°C (16°F)	31.1 (106000)	31.1 (106000)	1.00	0.88 (13.9)	41.5 (13.9)
	10°C (18°F)	29.9 (102000)	29.9 (102000)	1.00	0.75 (11.8)	31.4 (10.5)
	11.1°C (20°F)	28.8 (98000)	28.8 (98000)	1.00	0.65 (10.3)	24.3 (8.2)
48.89°C DB, 23.9°C WB (120°F DB, 75°F WB)						
	7.7°C (14°F)	35.7 (122000)	35.7 (122000)	1.00	1.15 (18.1)	66.4 (22.2)
	8.8°C (16°F)	34.5 (118000)	34.5 (118000)	1.00	0.97 (15.3)	49.3 (16.5)
	10°C (18°F)	33.3 (114000)	33.3 (114000)	1.00	0.83 (13.1)	37.8 (12.7)
	11.1°C (20°F)	32.2 (110000)	32.2 (110000)	1.00	0.72 (11.5)	29.7 (10.0)

Note: Any CW flow rate of 3.0 GPM-5.0 GPM may have increased error in Flow Rate and Power Calculation. A Fluid Flow Fault may result. Any flow rate under 3.0 GPM may also display as 0 in Flow Rate and Power Calculation.

Performance Specifications 15°C (59°F) EWT (ACRC301S)

Temperature DB, WB °C (°F)	CW Delta T °C (°F)	Total Net Capacity	Sensible Net Capacity	Sensible Heat Ratio	CW Flow Rate	Total CW Pressure Drop
		kW (BTU/hr)	kW (BTU/hr)	SHR	l/s (GPM)	kPa (ft H2O)
26.7°C DB, 17.1°C WB (80°F DB, 63°F WB)						
	5.5°C (10°F)	7.9 (27000)	7.9 (27000)	1.00	0.38 (6.0)	8.5 (2.9)
	6.6°C (12°F)	7.0 (24000)	7.0 (24000)	1.00	0.28 (4.4)	5.3 (1.8)
29.4°C DB, 18.1°C WB (85°F DB, 65°F WB)						
	5.5°C (10°F)	11.3 (39000)	11.3 (39000)	1.00	0.53 (8.4)	16.8 (5.6)
	6.6°C (12°F)	10.4 (36000)	10.4 (36000)	1.00	0.41 (6.4)	10.2 (3.4)
	7.7°C (14°F)	9.0 (31000)	9.0 (31000)	1.00	0.31 (4.8)	5.1 (1.7)
	8.8°C (16°F)	7.8 (27000)	7.8 (27000)	1.00	0.24 (3.7)	2.1 (0.7)
32.22°C DB, 18.9°C WB (90°F DB, 66°F WB)						
	5.5°C (10°F)	14.7 (50000)	14.7 (50000)	1.00	0.68 (10.8)	26.5 (8.9)
	6.6°C (12°F)	13.6 (46000)	13.6 (46000)	1.00	0.53 (8.4)	17.0 (5.7)
	7.7°C (14°F)	12.5 (42000)	12.5 (42000)	1.00	0.42 (6.6)	10.5 (3.5)
	8.8°C (16°F)	11.3 (38000)	11.3 (38000)	1.00	0.33 (5.3)	6.3 (2.1)
	10°C (18°F)	10.1 (34000)	10.1 (34000)	1.00	0.27 (4.2)	3.4 (1.1)
35°C DB, 19.8°C WB (95°F DB, 68°F WB)						
	5.5°C (10°F)	18.1 (62000)	18.1 (62000)	1.00	0.83 (13.2)	38.2 (12.8)
	6.6°C (12°F)	17.3 (59000)	17.3 (59000)	1.00	0.66 (10.5)	24.4 (8.2)
	7.7°C (14°F)	15.9 (54000)	15.9 (54000)	1.00	0.52 (8.3)	16.5 (5.5)
	8.8°C (16°F)	14.7 (50000)	14.7 (50000)	1.00	0.43 (6.7)	11.0 (3.7)
	10°C (18°F)	13.5 (46000)	13.5 (46000)	1.00	0.35 (5.5)	7.1 (2.4)
	11.1°C (20°F)	12.4 (42000)	12.4 (42000)	1.00	0.29 (4.6)	4.4 (1.5)
37.78°C DB, 20.7°C WB (100°F DB, 69°F WB)						
	5.5°C (10°F)	21.5 (73000)	21.5 (73000)	1.00	0.98 (15.5)	50.5 (16.9)
	6.6°C (12°F)	20.7 (71000)	20.7 (71000)	1.00	0.78 (12.4)	34.1 (11.4)
	7.7°C (14°F)	19.2 (66000)	19.2 (66000)	1.00	0.63 (10.0)	23.1 (7.7)
	8.8°C (16°F)	18.1 (62000)	18.1 (62000)	1.00	0.52 (8.2)	16.2 (5.4)
	10°C (18°F)	16.9 (58000)	16.9 (58000)	1.00	0.43 (6.9)	11.4 (3.8)
	11.1°C (20°F)	15.8 (54000)	15.8 (54000)	1.00	0.36 (5.8)	7.8 (2.6)
40.50°C DB, 21.59°C WB (105°F DB, 71°F WB)						
	5.5°C (10°F)	24.8 (85000)	24.8 (85000)	1.00	1.12 (17.7)	63.8 (21.4)
	6.6°C (12°F)	23.7 (81000)	23.7 (81000)	1.00	0.91 (14.4)	42.7 (14.3)
	7.7°C (14°F)	22.6 (77000)	22.6 (77000)	1.00	0.74 (11.7)	30.6 (10.2)
	8.8°C (16°F)	21.4 (73000)	21.4 (73000)	1.00	0.61 (9.7)	21.9 (7.3)
	10°C (18°F)	20.4 (69000)	20.4 (69000)	1.00	052 (8.2)	16.1 (5.4)
	11.1°C (20°F)	19.2 (66000)	19.2 (66000)	1.00	0.44 (7.0)	11.7 (3.9)

Temperature DB, WB °C (°F)	CW Delta T °C (°F)	Total Net Capacity	Sensible Net Capacity	Sensible Heat Ratio	CW Flow Rate	Total CW Pressure Drop
		kW (BTU/hr)	kW (BTU/hr)	SHR	l/s (GPM)	kPa (ft H2O)
43.33°C DB, 22.4°C WB (110°F DB, 72°F WB)						
	5.5°C (10°F)	28.3 (97000)	28.3 (97000)	1.00	1.28 (20.3)	80.5 (27.0)
	6.6°C (12°F)	27.3 (93000)	27.3 (93000)	1.00	01.03 (16.4)	55.4 (18.6)
	7.7°C (14°F)	26.0 (89000)	26.0 (89000)	1.00	0.84 (13.3)	38.6 (13.0)
	8.8°C (16°F)	24.9 (85000)	24.9 (85000)	1.00	0.70 (11.2)	28.3 (9.5)
	10°C (18°F)	23.8 (81000)	23.8 (81000)	1.00	0.60 (9.5)	21.1 (7.1)
	11.1°C (20°F)	22.6 (77000)	22.6 (77000)	1.00	0.51 (8.1)	15.8 (5.3)
46.11°C DB, 23.3°C WB (115°F DB, 74°F WB)						
	6.6°C (12°F)	30.7 (108000)	30.7 (108000)	1.00	1.16 (18.4)	67.7 (22.7)
	7.7°C (14°F)	29.4 (100000)	29.4 (100000)	1.00	0.95 (15.0)	47.6 (16.0)
	8.8°C (16°F)	28.3 (96000)	28.3 (96000)	1.00	0.80 (12.6)	35.3 (11.8)
	10°C (18°F)	27.2 (93000)	27.2 (93000)	1.00	0.68 (10.8)	26.7 (9.0)
	11.1°C (20°F)	26.0 (89000)	26.0 (89000)	1.00	0.59 (9.3)	20.4 (6.8)
48.89°C DB, 23.9°C WB (120°F DB, 75°F WB)						
	6.6°C (12°F)	34.0 (116000	34.0 (116000	1.00	1.28 (20.3)	79.4 (26.6)
	7.7°C (14°F)	32.8 (112000)	32.8 (112000)	1.00	1.05 (16.6)	57.0 (19.1)
	8.8°C (16°F)	31.7 (108000)	31.7 (108000)	1.00	0.89 (14.1)	42.7 (14.3)
	10°C (18°F)	30.5 (104000)	30.5 (104000)	1.00	0.76 (12.1)	32.6 (10.9)
	11.1°C (20°F)	29.4 (104000)	29.4 (104000)	1.00	0.66 (10.5)	25.4 (8.5)

Note: Any CW flow rate of 3.0 GPM-5.0 GPM may have increased error in Flow Rate and Power Calculation. A Fluid Flow Fault may result. Any flow rate under 3.0 GPM may also display as 0 in Flow Rate and Power Calculation.

ACRC301H

Performance Specifications 10°C (50°F) EWT

Temperature DB, WB °C (°F)	CW Delta T °C (°F)	Total Net Capacity	Sensible Net Capacity	Sensible Heat Ratio	CW Flow Rate	Total CW Pressure Drop
		kW (BTU/hr)	kW (BTU/hr)	SHR	l/s (GPM)	kPa (ft H2O)
26.7°C DB, 16.2°C WB (80°F DB,61°F WB)						
	5.5°C (10°F)	23.0 (79000)	23.0 (79000)	1.00	1.12 (17.8)	31.3 (10.5)
	6.6°C (12°F)	21.5 (73000)	21.5 (73000)	1.00	0.88 (14.0)	20.0 (6.7)
	7.7°C (14°F)	19.8 (68000)	19.8 (68000)	1.00	0.70 (11.1)	13.0 (4.4)
	8.8°C (16°F)	18.1 (62000)	18.1 (62000)	1.00	0.56 (8.9)	8.8 (2.9)
	10°C (18°F)	16.3 (56000)	16.3 (56000)	1.00	0.45 (7.2)	6.0 (2.0)
	11.1°C (20°F)	14.6 (50000)	14.6 (50000)	1.00	0.37 (5.9)	4.2 (1.4)
29.4°C DB, 17.1°C WB (85°F DB, 63°F WB)						
	5.5°C (10°F)	27.3 (93000)	27.3 (93000)	1.00	1.32 (20.9)	42.3 (14.2)
	6.6°C (12°F)	26.1 (89000)	26.1 (89000)	1.00	1.09 (17.3)	30.8 (10.3)
	7.7°C (14°F)	24.4 (83000)	24.4 (83000)	1.00	0.84 (13.3)	18.3 (6.1)
	8.8°C (16°F)	22.6 (77000)	22.6 (77000)	1.00	0.69 (10.9)	12.8 (4.3)
	10°C (18°F)	20.8 (71000)	20.8 (71000)	1.00	0.57 (9.0)	9.0 (3.0)
	11.1°C (20°F)	19.1 (65000)	19.1 (65000)	1.00	0.47 (7.5)	6.4 (2.2)
32.2°C DB, 18.9°C WB (90°F DB, 66°F WB)						
	5.5°C (10°F)	33.5 (114000)	33.5 (114000)	1.00	1.60 (25.3)	60.7 (20.4)
	6.6°C (12°F)	32.1 (110000)	32.1 (110000)	1.00	1.30 (20.6)	41.3 (13.8)
	7.7°C (14°F)	30.5 (104000)	30.5 (104000)	1.00	1.05 (16.6)	27.4 (9.2)
	8.8°C (16°F)	28.9 (99000)	28.9 (99000)	1.00	0.87 (13.8)	19.6 (6.6)
	10°C (18°F)	27.2 (93000)	27.2 (93000)	1.00	0.73 (11.6)	14.2 (4.8)
	11.1°C (20°F)	25.6 (87000)	25.6 (87000)	1.00	0.62 (9.8)	10.5 (3.5)
35°C DB, 19°C WB (95°F DB, 66°F WB)						
	5.5°C (10°F)	39.4 (134000)	39.4 (134000)	1.00	1.88 (29.8)	82.6 (27.7)
	6.6°C (12°F)	38.0 (130000)	38.0 (130000)	1.00	1.52 (24.0)	55.4 (18.6)
	7.7°C (14°F)	36.6 (125000)	36.6 (125000)	1.00	1.25 (19.8)	38.3 (12.8)
	8.8°C (16°F)	35.2 (120000)	35.2 (120000)	1.00	1.05 (16.6)	27.6 (9.3)
	10°C (18°F)	33.6 (115000)	33.6 (115000)	1.00	0.89 (14.1)	20.3 (6.8)
	11.1°C (20°F)	32.2 (110000)	32.2 (110000)	1.00	0.77 (12.2)	15.6 (5.2)
37.78°C DB, 20.7°C WB (100°F DB, 69°F WB)						
	6.6°C (12°F)	43.1 (147000)	43.1 (147000)	1.00	1.72 (27.3)	70.2 (23.5)
	7.7°C (14°F)	41.5 (141000)	41.5 (141000)	1.00	1.40 (22.2)	47.5 (15.9)
	8.8°C (16°F)	40.0 (136000)	40.0 (136000)	1.00	1.19 (18.8)	34.7 (11.6)
	10°C (18°F)	38.4 (131000)	38.4 (131000)	1.00	1.01 (16.1)	25.9 (8.7)
	11.1°C (20°F)	36.9 (126000)	36.9 (126000)	1.00	0.88 (13.9)	19.8 (6.6)

Temperature DB, WB °C (°F)	CW Delta T °C (°F)	Total Net Capacity	Sensible Net Capacity	Sensible Heat Ratio	CW Flow Rate	Total CW Pressure Drop
		kW (BTU/hr)	kW (BTU/hr)	SHR	l/s (GPM)	kPa (ft H2O)
40.50°C DB, 20.8°C WB (105°F DB, 69°F WB)						
	6.6°C (12°F)	48.2 (164000)	48.2 (164000)	1.00	1.92 (30.4)	88.3 (29.6)
	7.7°C (14°F)	46.7 (159000)	46.7 (159000)	1.00	1.57 (24.9)	58.7 (19.7)
	8.8°C (16°F)	45.3 (155000)	45.3 (155000)	1.00	1.33 (21.1)	43.1 (14.5)
	10°C (18°F)	43.8 (149000)	43.8 (149000)	1.00	1.14 (18.1)	32.4 (10.9)
	11.1°C (20°F)	42.3 (144000)	42.3 (144000)	1.00	1.00 (15.8)	25.2 (8.4)
43.33°C DB, 22.4°C WB (110°F DB, 72°F WB)						
	7.7°C (14°F)	52.4 (179000)	52.4 (179000)	1.00	1.76 (27.9)	73.0 (24.5)
	8.8°C (16°F)	51.1 (174000)	51.1 (174000)	1.00	1.50 (23.8)	54.0 (18.1)
	10°C (18°F)	49.6 (169000)	49.6 (169000)	1.00	1.29 (20.5)	40.9 (13.7)
	11.1°C (20°F)	48.2 (164000)	48.2 (164000)	1.00	1.13 (17.9)	31.7 (10.6)
46.11°C DB, 23.3°C WB (115°F DB, 74°F WB)						
	7.7°C (14°F)	57.9 (198000)	57.9 (198000)	1.00	1.94 (30.7)	87.7 (29.4)
	8.8°C (16°F)	56.6 (193000)	56.6 (193000)	1.00	1.66 (26.3)	65.3 (21.9)
	10°C (18°F)	55.2 (189000)	55.2 (189000)	1.00	1.44 (22.8)	49.7 (16.7)
	11.1°C (20°F)	53.9 (184000)	53.9 (184000)	1.00	1.26 (19.9)	38.7 (13.0)
48.89°C DB, 23.3°C WB (120°F DB, 74°F WB)						
	8.8°C (16°F)	62.0 (212000)	62.0 (212000)	1.00	1.81 (28.7)	77.3 (25.9)
	10°C (18°F)	60.7 (207000)	60.7 (207000)	1.00	1.57 (24.9)	59.0 (19.8)
	11.1°C (20°F)	59.3 (202000)	59.3 (202000)	1.00	1.38 (21.9)	46.3 (15.5)

Note: Any CW flow rate of 3.0 GPM-5.0 GPM may have increased error in Flow Rate and Power Calculation. A Fluid Flow Fault may result. Any flow rate under 3.0 GPM may also display as 0 in Flow Rate and Power Calculation.

Performance Specifications 12.7°C (55°F) EWT (ACRC301H)

Temperature DB, WB °C (°F)	CW Delta T °C (°F)	Total Net Capacity	Sensible Net Capacity	Sensible Heat Ratio	CW Flow Rate	Total CW Pressure Drop
		kW (BTU/hr)	kW (BTU/hr)	SHR	l/s (GPM)	kPa (ft H2O)
26.7°C DB, 17.1°C WB (80°F DB, 63°F WB)						
	5.5°C (10°F)	17.9 (61000)	17.9 (61000)	1.00	0.89 (14.1)	20.3 (6.8)
	6.6°C (12°F)	16.2 (55000)	16.2 (55000)	1.00	0.68 (10.8)	12.4 (4.2)
	7.7°C (14°F)	14.5 (49000)	14.5 (49000)	1.00	0.53 (8.3)	7.8 (2.6)
	8.8°C (16°F)	12.7 (43000)	12.7 (43000)	1.00	0.41 (6.5)	5.0 (1.7)
29.4°C DB, 18.1°C WB (85°F DB, 65°F WB)						
	5.5°C (10°F)	22.3 (76000)	22.3 (76000)	1.00	1.09 (17.2)	29.6 (9.9)
	6.6°C (12°F)	20.8 (71000)	20.8 (71000)	1.00	0.85 (13.5)	18.8 (6.3)
	7.7°C (14°F)	19.1 (65000)	19.1 (65000)	1.00	0.68 (10.7)	12.3 (4.1)
	8.8°C (16°F)	17.4 (59000)	17.4 (59000)	1.00	0.54 (8.6)	8.3 (2.8)
	10°C (18°F)	15.4 (52000)	15.4 (52000)	1.00	0.44 (6.9)	5.6 (1.9)
	11.1°C (20°F)	13.8 (47000)	13.8 (47000)	1.00	0.35 (5.6)	3.8 (1.3)
32.2°C DB, 18.9°C WB (90°F DB, 66°F WB)						
	5.5°C (10°F)	28.4 (97000)	28.4 (97000)	1.00	1.36 (21.6)	45.1 (15.1)
	6.6°C (12°F)	27.1 (92000)	27.1 (92000)	1.00	1.08 (17.2)	29.4 (9.8)
	7.7°C (14°F)	25.3 (86000)	25.3 (86000)	1.00	0.88 (13.9)	19.8 (6.6)
	8.8°C (16°F)	23.6 (81000)	23.6 (81000)	1.00	0.72 (11.4)	13.8 (3.4)
	10°C (18°F)	21.7 (75000)	21.7 (75000)	1.00	0.60 (9.6)	10.0 (3.4)
	11.1°C (20°F)	20.2 (69000)	20.2 (69000)	1.00	0.51 (8.0)	7.3 (2.4)
35°C DB, 19.8°C WB (95°F DB, 68°F WB)						
	5.5°C (10°F)	34.2 (117000)	34.2 (117000)	1.00	1.64 (26.0)	64.0 (21.5)
	6.6°C (12°F)	33.0 (117000)	33.0 (117000)	1.00	1.29 (20.5)	40.9 (13.7)
	7.7°C (14°F)	31.4 (107000)	31.4 (107000)	1.00	1.08 (17.1)	29.1 (9.8)
	8.8°C (16°F)	29.9 (102000)	29.9 (102000)	1.00	0.90 (14.2)	20.7 (7.0)
	10°C (18°F)	28.2 (96000)	28.2 (96000)	1.00	0.75 (11.9)	15.0 (5.0)
	11.1°C (20°F)	26.7 (91000)	26.7 (91000)	1.00	0.64 (10.2)	11.3 (3.8)
37.78°C DB, 20.7°C WB (100°F DB, 69°F WB)						
	5.5°C (10°F)	39.2 (134000)	39.2 (134000)	1.00	1.84 (29.2)	79.8 (26.8)
	6.6°C (12°F)	37.9 (129000)	37.9 (129000)	1.00	1.51 (23.9)	54.2 (18.2)
	7.7°C (14°F)	36.4 (124000)	36.4 (124000)	1.00	1.22 (19.3)	36.3 (12.2)
	8.8°C (16°F)	34.8 (119000)	34.8 (119000)	1.00	1.04 (16.4)	27.0 (9.1)
	10°C (18°F)	33.1 (113000)	33.1 (113000)	1.00	0.89 (14.1)	20.5 (6.9)
	11.1°C (20°F)	31.7 (108000)	31.7 (108000)	1.00	0.77 (12.2)	15.6 (5.2)
40.50°C DB, 21.5°C WB (105°F DB, 71°F WB)						
	6.6°C (12°F)	43.1 (147000)	43.1 (147000)	1.00	1.71 (27.1)	69.3 (23.2)
	7.7°C (14°F)	41.8 (143000)	41.8 (143000)	1.00	1.42 (22.5)	48.8 (16.3)
	8.8°C (16°F)	40.2 (137000)	40.2 (137000)	1.00	1.19 (18.8)	34.8 (11.7)
	10°C (18°F)	38.8 (132000)	38.8 (132000)	1.00	1.06 (16.9)	28.4 (9.5)
	11.1°C (20°F)	37.3 (127000)	37.3 (127000)	1.00	0.93 (14.8)	22.1 (7.4)

Temperature DB, WB °C (°F)	CW Delta T °C (°F)	Total Net Capacity	Sensible Net Capacity	Sensible Heat Ratio	CW Flow Rate	Total CW Pressure Drop
		kW (BTU/hr)	kW (BTU/hr)	SHR	l/s (GPM)	kPa (ft H2O)
43.33°C DB, 22.4°C WB (110°F DB, 72°F WB)						
	6.6°C (12°F)	48.9 (167000)	48.9 (167000)	1.00	1.93 (30.5)	86.7 (29.1)
	7.7°C (14°F)	47.4 (162000)	47.4 (162000)	1.00	1.55 (24.6)	57.6 (19.3)
	8.8°C (16°F)	46.0 (157000)	46.0 (157000)	1.00	1.35 (21.5)	44.5 (14.9)
	10°C (18°F)	44.5 (152000)	44.5 (152000)	1.00	1.18 (18.7)	34.4 (11.5)
	11.1°C (20°F)	43.2 (147000)	43.2 (147000)	1.00	1.03 (16.4)	26.9 (9.0)
46.11°C DB, 23.3°C WB (115°F DB, 74°F WB)						
	7.7°C (14°F)	52.9 (181000)	52.9 (181000)	1.00	1.72 (27.3)	70.1 (23.5)
	8.8°C (16°F)	51.5 (176000)	51.5 (176000)	1.00	1.51 (24.0)	54.8 (18.4)
	10°C (18°F)	50.2 (171000)	50.2 (171000)	1.00	1.32 (21.0)	42.7 (14.3)
	11.1°C (20°F)	48.9 (167000)	48.9 (167000)	1.00	1.17 (18.5)	33.6 (11.3)
48.89°C DB, 23.9°C WB (120°F DB, 75°F WB)						
	7.7°C (14°F)	58.3 (199000)	58.3 (199000)	1.00	1.85 (29.4)	80.6 (27.0)
	8.8°C (16°F)	57.0 (194000)	57.0 (194000)	1.00	1.67 (26.5)	66.2 (22.2)
	10°C (18°F)	55.7 (190000)	55.7 (190000)	1.00	1.45 (22.9)	50.4 (16.9)
	11.1°C (20°F)	54.3 (185000)	54.3 (185000)	1.00	1.28 (20.2)	39.8 (13.3)

Note: Any CW flow rate of 3.0 GPM-5.0 GPM may have increased error in Flow Rate and Power Calculation. A Fluid Flow Fault may result. Any flow rate under 3.0 GPM may also display as 0 in Flow Rate and Power Calculation.

Performance Specifications 15°C (59°F) EWT (ACRC301H)

Temperature DB, WB °C (°F)	CW Delta T °C (°F)	Total Net Capacity	Sensible Net Capacity	Sensible Heat Ratio	CW Flow Rate	Total CW Pressure Drop
		kW (BTU/hr)	kW (BTU/hr)	SHR	l/s (GPM)	kPa (ft H2O)
26.7°C DB, 17.1°C WB (80°F DB,63°F WB)						
	5.5°C (10°F)	13.4 (46000)	13.4 (46000)	1.00	0.69 (10.9)	12.6 (4.2)
	6.6°C (12°F)	11.4 (39000)	11.4 (39000)	1.00	0.49 (7.7)	6.6 (2.2)
	7.7°C (14°F)	9.7 (33000)	9.7 (33000)	1.00	0.37 (5.9)	4.2 (1.4)
29.4°C DB, 18.1°C WB (85°F DB, 65°F WB)						
	5.5°C (10°F)	18.0 (61000)	18.0 (61000)	1.00	0.90 (14.2)	20.6 (6.9)
	6.6°C (12°F)	16.7 (57000)	16.7 (57000)	1.00	0.73 (11.5)	13.9 (4.7)
	7.7°C (14°F)	14.7 (50000)	14.7 (50000)	1.00	0.53 (8.4)	8.0 (2.7)
	8.8°C (16°F)	12.9 (44000)	12.9 (44000)	1.00	0.42 (6.6)	5.1 (1.7)
	10°C (18°F)	11.1 (38000)	11.1 (38000)	1.00	0.32 (5.1)	3.2 (1.1)
32.22°C DB, 18.9°C WB (90°F DB, 66°F WB)						
	5.5°C (10°F)	24.0 (82000)	24.0 (82000)	1.00	1.17 (18.5)	33.8 (11.3)
	6.6°C (12°F)	22.8 (78000)	22.8 (78000)	1.00	0.94 (14.9)	22.5 (7.6)
	7.7°C (14°F)	21.1 (72000)	21.1 (72000)	1.00	0.74 (11.8)	14.6 (4.9)
	8.8°C (16°F)	19.1 (65000)	19.1 (65000)	1.00	0.59 (9.4)	9.7 (3.2)
	10°C (18°F)	17.3 (59000)	17.3 (59000)	1.00	0.48 (7.6)	6.6 (2.2)
	11.1°C (20°F)	16.2 (55000)	16.2 (55000)	1.00	0.41 (6.4)	4.9 (1.6)
35°C DB, 19.8°C WB (95°F DB, 68°F WB)						
	5.5°C (10°F)	29.9 (102000)	29.9 (102000)	1.00	1.44 (22.8)	50.0 (16.8)
	6.6°C (12°F)	28.7 (98000)	28.7 (98000)	1.00	1.18 (18.7)	33.5 (11.2)
	7.7°C (14°F)	26.9 (92000)	26.9 (92000)	1.00	0.93 (14.8)	22.2 (7.5)
	8.8°C (16°F)	25.4 (87000)	25.4 (87000)	1.00	0.77 (12.2)	15.6 (5.2)
	10°C (18°F)	23.6 (80000)	23.6 (80000)	1.00	0.64 (10.1)	11.0 (3.7)
	11.1°C (20°F)	22.1 (75000)	22.1 (75000)	1.00	0.54 (8.6)	8.2 (2.7)
37.78°C DB, 20.7°C WB (100°F DB, 69°F WB)						
	5.5°C (10°F)	34.9 (119000)	34.9 (119000)	1.00	1.65 (26.2)	64.9 (21.8)
	6.6°C (12°F)	33.8 (115000)	33.8 (115000)	1.00	1.37 (21.8)	45.7 (15.3)
	7.7°C (14°F)	32.7 (111000)	32.7 (111000)	1.00	1.13 (17.8)	31.5 (10.6)
	8.8°C (16°F)	30.9 (105000)	30.9 (105000)	1.00	0.91 (14.5)	21.4 (7.2)
	10°C (18°F)	29.3 (100000)	29.3 (100000)	1.00	0.77 (12.2)	15.5 (5.2)
	11.1°C (20°F)	27.6 (94000)	27.6 (94000)	1.00	0.66 (10.5)	11.9 (4.0)
40.50°C DB, 21.5°C WB (105°F DB, 71°F WB)						
	5.5°C (10°F)	40.3 (137000)	40.3 (137000)	1.00	1.92 (30.4)	86.0 (28.8)
	6.6°C (12°F)	39.0 (133000)	39.0 (133000)	1.00	1.59 (25.3)	59.1 (19.8)
	7.7°C (14°F)	37.6 (128000)	37.6 (128000)	1.00	1.32 (20.9)	41.1 (13.8)
	8.8°C (16°F)	35.9 (122000)	35.9 (122000)	1.00	1.06 (16.9)	28.4 (9.5)
	10°C (18°F)	34.2 (117000)	34.2 (117000)	1.00	0.88 (14.0)	20.1 (6.7)
	11.1°C (20°F)	33.1 (113000)	33.1 (113000)	1.00	0.79 (12.6)	16.5 (5.5)

Temperature DB, WB °C (°F)	CW Delta T °C (°F)	Total Net Capacity	Sensible Net Capacity	Sensible Heat Ratio	CW Flow Rate	Total CW Pressure Drop
		kW (BTU/hr)	kW (BTU/hr)	SHR	l/s (GPM)	kPa (ft H2O)
43.33°C DB, 22.4°C WB (110°F DB, 72°F WB)						
	6.6°C (12°F)	44.6 (152000)	44.6 (152000)	1.00	1.81 (28.6)	76.6 (25.7)
	7.7°C (14°F)	43.2 (147000)	43.2 (147000)	1.00	1.51 (23.9)	54.5 (18.3)
	8.8°C (16°F)	41.6 (142000)	41.6 (142000)	1.00	1.23 (19.6)	37.4 (12.5)
	10°C (18°F)	40.1 (137000)	40.1 (137000)	1.00	1.05 (16.7)	27.8 (9.3)
	11.1°C (20°F)	38.8 (132000)	38.8 (132000)	1.00	0.92 (14.6)	21.6 (7.3)
46.11°C DB, 23.3°C WB (115°F DB, 74°F WB)						
	7.7°C (14°F)	48.8 (167000)	48.8 (167000)	1.00	1.70 (26.9)	68.3 (22.9)
	8.8°C (16°F)	47.3 (161000)	47.3 (161000)	1.00	1.40 (22.1)	47.0 (15.8)
	10°C (18°F)	45.8 (156000)	45.8 (156000)	1.00	1.20 (19.0)	35.3 (11.8)
	11.1°C (20°F)	44.4 (152000)	44.4 (152000)	1.00	1.05 (16.6)	27.5 (9.2)
48.89°C DB, 23.9°C WB (120°F DB, 75°F WB)						
	7.7°C (14°F)	55.0 (188000)	55.0 (188000)	1.00	1.89 (29.9)	82.1 (27.5)
	8.8°C (16°F)	52.7 (180000)	52.7 (180000)	1.00	1.55 (24.6)	57.4 (19.3)
	10°C (18°F)	51.7 (175000)	51.7 (175000)	1.00	1.34 (21.2)	43.5 (14.6)
	11.1°C (20°F)	50.0 (171000)	50.0 (171000)	1.00	1.17 (18.6)	34.0 (11.4)

Note: Any CW flow rate of 3.0 GPM-5.0 GPM may have increased error in Flow Rate and Power Calculation. A Fluid Flow Fault may result. Any flow rate under 3.0 GPM may also display as 0 in Flow Rate and Power Calculation.

Performance Specifications 17.5°C (63.5°F) EWT (ACRC301H)

Temperature DB, WB °C (°F)	CW Delta T °C (°F)	Total Net Capacity	Sensible Net Capacity	Sensible Heat Ratio	CW Flow Rate	Total CW Pressure Drop
		kW (BTU/hr)	kW (BTU/hr)	SHR	l/s (GPM)	kPa (ft H2O)
26.7°C DB, 17.1°C WB (80°F DB,63°F WB)						
	5.5°C (10°F)	8.3 (28000)	8.3 (28000)	1.00	0.46 (7.3)	6.1 (2.0)
	6.6°C (12°F)	6.3 (22000)	6.3 (22000)	1.00	0.30 (4.8)	2.9 (1.0)
29.4°C DB, 18.1°C WB (85°F DB, 65°F WB)						
	5.5°C (10°F)	13.3 (45000)	13.3 (45000)	1.00	0.68 (10.8)	12.5 (4.2)
	6.6°C (12°F)	11.6 (40000)	11.6 (40000)	1.00	0.51 (8.0)	7.3 (2.4)
	7.7°C (14°F)	9.8 (33000)	9.8 (33000)	1.00	0.37 (5.9)	4.2 (1.4)
32.22°C DB, 18.9°C WB (90°F DB, 66°F WB)						
	5.5°C (10°F)	19.2 (66000)	19.2 (66000)	1.00	0.95 (15.1)	23.1 (7.7)
	6.6°C (12°F)	17.5 (60000)	17.5 (60000)	1.00	0.72 (11.5)	14.0 (4.7)
	7.7°C (14°F)	15.9 (54000)	15.9 (54000)	1.00	0.57 (9.1)	9.1 (3.1
	8.8°C (16°F)	14.7 (50000)	14.7 (50000)	1.00	0.57 (9.0)	9.0 (3.0)
	10°C (18°F)	12.8 (44000)	12.8 (44000)	1.00	0.37 (5.8)	4.1 (1.4)
35°C DB, 19.8°C WB (95°F DB, 68°F WB)						
	5.5°C (10°F)	25.1 (86000)	25.1 (86000)	1.00	1.22 (19.4)	36.8 (12.3)
	6.6°C (12°F)	23.5 (80000)	23.5 (80000)	1.00	0.95 (15.0)	22.8 (7.7)
	7.7°C (14°F)	22.1 (75000)	22.1 (75000)	1.00	0.77 (12.3)	15.8 (5.3)
	8.8°C (16°F)	20.4 (70000)	20.4 (70000)	1.00	0.63 (10.0)	10.9 (3.6)
	10°C (18°F)	18.6 (63000)	18.6 (63000)	1.00	0.51 (8.1)	7.4 (2.5)
	11.1°C (20°F)	17.0 (58000)	17.0 (58000)	1.00	0.43 (6.7)	5.3 (1.8)
37.78°C DB, 20.7°C WB (100°F DB, 69°F WB)						
	5.5°C (10°F)	30.1 (103000)	30.1 (103000)	1.00	1.44 (22.9)	50.1 (16.8)
	6.6°C (12°F)	28.7 (98000)	28.7 (98000)	1.00	1.14 (18.1)	32.4 (10.9)
	7.7°C (14°F)	27.1 (93000)	27.1 (93000)	1.00	0.94 (14.9)	22.4 (7.5)
	8.8°C (16°F)	25.9 (88000)	25.9 (88000)	1.00	0.82 (12.9)	17.4 (5.8)
	10°C (18°F)	24.2 (82000)	24.2 (82000)	1.00	0.65 (10.3)	11.5 (3.9)
	11.1°C (20°F)	22.7 (77000)	22.7 (77000)	1.00	0.65 (10.3)	11.5 (3.9)
40.50°C DB, 21.5°C WB (105°F DB, 71°F WB)						
	5.5°C (10°F)	35.6 (122000)	35.6 (122000)	1.00	1.71 (27.2)	69.4 (23.3)
	6.6°C (12°F)	34.2 (117000)	34.2 (117000)	1.00	1.35 (21.4)	44.4 (14.9)
	7.7°C (14°F)	32.8 (112000)	32.8 (112000)	1.00	1.12 (17.8)	31.3 (10.5)
	8.8°C (16°F)	31.1 (106000)	31.1 (106000)	1.00	0.93 (14.8)	22.1 (7.4)
	10°C (18°F)	29.7 (101000)	29.7 (101000)	1.00	0.79 (12.5)	16.4 (5.5)
	11.1°C (20°F)	28.2 (96000)	28.2 (96000)	1.00	0.68 (10.8)	12.5 (4.2)
43.33°C DB, 22.4°C WB (110°F DB, 72°F WB)						
	5.5°C (10°F)	41.1 (140000)	41.1 (140000)	1.00	1.93 (30.6)	87.2 (29.2)
	6.6°C (12°F)	39.9 (136000)	39.9 (136000)	1.00	1.56 (24.7)	58.1 (19.5)
	7.7°C (14°F)	38.4 (131000)	38.4 (131000)	1.00	1.30 (20.6)	41.3 (13.8)
	8.8°C (16°F)	36.9 (126000)	36.9 (126000)	1.00	1.11 (17.6)	30.6 (10.3)
	10°C (18°F)	35.4 (121000)	35.4 (121000)	1.00	0.94 (14.8)	22.3 (7.5)
	11.1°C (20°F)	34.0 (116000)	34.0 (116000)	1.00	0.91 (14.4)	21.2 (7.1)

Temperature DB, WB °C (°F)	CW Delta T °C (°F)	Total Net Capacity	Sensible Net Capacity	Sensible Heat Ratio	CW Flow Rate	Total CW Pressure Drop
		kW (BTU/hr)	kW (BTU/hr)	SHR	l/s (GPM)	kPa (ft H2O)
46.11°C DB, 23.3°C WB (115°F DB, 74°F WB)						
	6.6°C (12°F)	45.3 (154000)	45.3 (154000)	1.00	1.77 (28.1)	73.8 (24.7)
	7.7°C (14°F)	44.0 (150000)	44.0 (150000)	1.00	1.48 (23.5)	52.8 (17.7)
	8.8°C (16°F)	42.5 (145000)	42.5 (145000)	1.00	1.25 (19.9)	38.6 (12.9)
	10°C (18°F)	41.1 (140000)	41.1 (140000)	1.00	1.08 (17.1)	29.0 (9.7)
	11.1°C (20°F)	39.7 (135000)	39.7 (135000)	1.00	1.04 (16.4)	27.0 (9.1)
48.89°C DB, 23.9°C WB (120°F DB, 75°F WB)						
	7.7°C (14°F)	49.3 (168000)	49.3 (168000)	1.00	1.53 (24.2)	55.7 (18.7)
	8.8°C (16°F)	48.1 (164000)	48.1 (164000)	1.00	1.42 (22.5)	48.6 (16.3)
	10°C (18°F)	46.7 (159000)	46.7 (159000)	1.00	1.22 (19.4)	36.7 (12.3)
	11.1°C (20°F)	45.4 (155000)	45.4 (155000)	1.00	1.07 (16.9)	28.6 (9.6)

Note: Any CW flow rate of 3.0 GPM-5.0 GPM may have increased error in Flow Rate and Power Calculation. A Fluid Flow Fault may result. Any flow rate under 3.0 GPM may also display as 0 in Flow Rate and Power Calculation.

Performance Specifications 20°C (68°F) EWT (ACRC301H)

Temperature DB, WB °C (°F)	CW Delta T °C (°F)	Total Net Capacity	Sensible Net Capacity	Sensible Heat Ratio	CW Flow Rate	Total CW Pressure Drop
		kW (BTU/hr)	kW (BTU/hr)	SHR	l/s (GPM)	kPa (ft H2O)
29.4°C DB, 18.1°C WB (85°F DB, 65°F WB)						
	5.5°C (10°F)	8.4 (29000)	8.4 (29000)	1.00	0.46 (7.3)	6.2 (2.1)
	6.6°C (12°F)	6.5 (22000)	6.5 (22000)	1.00	0.31 (4.9)	3.0 (1.0)
32.22°C DB, 18.9°C WB (90°F DB, 66°F WB)						
	5.5°C (10°F)	14.4 (49000)	14.4 (49000)	1.00	0.74 (11.7)	14.4 (4.8)
	6.6°C (12°F)	12.5 (43000)	12.5 (43000)	1.00	0.54 (8.5)	8.2 (2.7)
	7.7°C (14°F)	11.3 (39000)	11.3 (39000)	1.00	0.42 (6.7)	5.3 (1.8)
	8.8°C (16°F)	9.3 (32000)	9.3 (32000)	1.00	0.31 (5.0)	3.1 (1.0)
35°C DB, 19.8°C WB (95°F DB, 68°F WB)						
	5.5°C (10°F)	20.4 (69000)	20.4 (69000)	1.00	1.00 (15.9)	25.5 (8.5)
	6.6°C (12°F)	18.4 (63000)	18.4 (63000)	1.00	0.76 (12.0)	15.1 (5.1)
	7.7°C (14°F)	17.2 (59000)	17.2 (59000)	1.00	0.62 (9.8)	10.4 (3.5)
	8.8°C (16°F)	15.5 (53000)	15.5 (53000)	1.00	0.49 (7.8)	6.9 (2.3)
	10°C (18°F)	13.5 (46000)	13.5 (46000)	1.00	0.38 (6.1)	4.4 (1.5)
	11.1°C (20°F)	11.9 (41000)	11.9 (41000)	1.00	0.31 (4.9)	3.0 (1.0)
37.78°C DB, 20.7°C WB (100°F DB, 69°F WB)						
	5.5°C (10°F)	25.4 (87000)	25.4 (87000)	1.00	1.23 (19.5)	37.3 (12.5)
	6.6°C (12°F)	23.7 (81000)	23.7 (81000)	1.00	0.95 (15.1)	23.2 (7.8)
	7.7°C (14°F)	22.6 (77000)	22.6 (77000)	1.00	0.76 (12.1)	15.4 (5.2)
	8.8°C (16°F)	20.9 (71000)	20.9 (71000)	1.00	0.64 (10.2)	11.2 (3.8)
	10°C (18°F)	19.3 (66000)	19.3 (66000)	1.00	0.53 (8.4)	7.9 (2.6)
	11.1°C (20°F)	17.7 (60000)	17.7 (60000)	1.00	0.44 (7.0)	5.7 (1.9)
40.50°C DB, 21.5°C WB (105°F DB, 71°F WB)						
	5.5°C (10°F)	31.0 (106000)	31.0 (106000)	1.00	1.50 (23.8)	54.1 (18.2)
	6.6°C (12°F)	29.4 (100000)	29.4 (100000)	1.00	1.18 (18.6)	34.2 (11.5)
	7.7°C (14°F)	28.1 (96000)	28.1 (96000)	1.00	0.98 (15.5)	24.2 (8.1)
	8.8°C (16°F)	26.4 (90000)	26.4 (90000)	1.00	0.80 (12.6)	16.6 (5.6)
	10°C (18°F)	24.9 (85000)	24.9 (85000)	1.00	0.67 (10.6)	12.0 (4.0)
	11.1°C (20°F)	23.3 (80000)	23.3 (80000)	1.00	0.57 (9.0)	9.0 (3.0)
43.33°C DB, 22.4°C WB (110°F DB, 72°F WB)						
	5.5°C (10°F)	36.4 (124000)	36.4 (124000)	1.00	1.73 (27.4)	70.4 (23.6)
	6.6°C (12°F)	34.8 (119000)	34.8 (119000)	1.00	1.37 (21.7)	45.4 (15.2)
	7.7°C (14°F)	33.6 (115000)	33.6 (115000)	1.00	1.07 (17.0)	28.8 (9.7)
	8.8°C (16°F)	32.2 (110000)	32.2 (110000)	1.00	0.96 (15.3)	23.7 (7.9)
	10°C (18°F)	30.7 (105000)	30.7 (105000)	1.00	0.82 (12.9)	17.4 (5.8)
	11.1°C (20°F)	29.2 (100000)	29.2 (100000)	1.00	0.70 (11.1)	13.2 (4.4)

Temperature DB, WB °C (°F)	CW Delta T °C (°F)	Total Net Capacity	Sensible Net Capacity	Sensible Heat Ratio	CW Flow Rate	Total CW Pressure Drop
		kW (BTU/hr)	kW (BTU/hr)	SHR	l/s (GPM)	kPa (ft H2O)
46.11°C DB, 23.3°C WB (115°F DB, 74°F WB)						
	6.6°C (12°F)	40.4 (138000)	40.4 (138000)	1.00	1.58 (25.0)	59.2 (19.9)
	7.7°C (14°F)	39.2 (134000)	39.2 (134000)	1.00	1.23 (19.5)	37.0 (12.4)
	8.8°C (16°F)	37.8 (129000)	37.8 (129000)	1.00	1.13 (17.8)	31.5 (10.6)
	10°C (18°F)	36.4 (124000)	36.4 (124000)	1.00	0.96 (15.2)	23.4 (7.9)
	11.1°C (20°F)	34.9 (119000)	34.9 (119000)	1.00	0.83 (13.2)	18.05 (6.1)
48.89°C DB, 23.9°C WB (120°F DB, 75°F WB)						
	6.6°C (12°F)	45.7 (156000)	45.7 (156000)	1.00	1.77 (28.0)	73.7 (24.7)
	7.7°C (14°F)	44.7 (152000)	44.7 (152000)	1.00	1.36 (21.5)	44.5 (14.9)
	8.8°C (16°F)	43.4 (148000)	43.4 (148000)	1.00	1.29 (20.4)	40.5 (13.6)
	10°C (18°F)	42.1 (144000)	42.1 (144000)	1.00	1.10 (17.5)	30.4 (10.2)
	11.1°C (20°F)	40.7 (139000)	40.7 (139000)	1.00	0.96 (15.3)	23.6 (7.9)

Note: Any CW flow rate of 3.0 GPM-5.0 GPM may have increased error in Flow Rate and Power Calculation. A Fluid Flow Fault may result. Any flow rate under 3.0 GPM may also display as 0 in Flow Rate and Power Calculation.

Performance Specifications 22°C (72°F) EWT (ACRC301H)

Temperature DB, WB °C (°F)	CW Delta T °C (°F)	Total Net Capacity	Sensible Net Capacity	Sensible Heat Ratio	CW Flow Rate	Total CW Pressure Drop
		kW (BTU/hr)	kW (BTU/hr)	SHR	l/s (GPM)	kPa (ft H2O)
32.22°C DB, 18.9°C WB (90°F DB, 66°F WB)						
	5.5°C (10°F)	10.8 (37000)	10.8 (37000)	1.00	0.57 (9.0)	9.0 (3.0)
	6.6°C (12°F)	9.0 (31000)	9.0 (31000)	1.00	0.41 (6.4)	4.9 (1.6)
	7.7°C (14°F)	6.9 (24000)	6.9 (24000)	1.00	0.28 (4.4)	2.5 (0.8)
35°C DB, 19.8°C WB (95°F DB, 68°F WB)						
	5.5°C (10°F)	16.6 (57000)	16.6 (57000)	1.00	0.83 (13.2)	18.0 (6.0)
	6.6°C (12°F)	14.9 (51000)	14.9 (51000)	1.00	0.61 (9.6)	10.3 (3.4)
	7.7°C (14°F)	13.3 (46000)	13.3 (46000)	1.00	0.49 (7.7)	6.8 (2.3)
	8.8°C (16°F)	11.6 (40000)	11.6 (40000)	1.00	0.38 (6.0)	4.4 (1.5)
	10°C (18°F)	9.5 (32000)	9.5 (32000)	1.00	0.28 (4.5)	2.6 (0.9)
37.78°C DB, 20.7°C WB (100°F DB, 69°F WB)						
	5.5°C (10°F)	21.8 (74000)	21.8 (74000)	1.00	1.07 (17.0)	28.6 (9.6)
	6.6°C (12°F)	19.8 (68000)	19.8 (68000)	1.00	0.81 (12.9)	17.2 (5.8)
	7.7°C (14°F)	18.6 (63000)	18.6 (63000)	1.00	0.66 (10.4)	11.7 (3.9)
	8.8°C (16°F)	17.2 (59000)	17.2 (59000)	1.00	0.54 (8.6)	8.2 (2.7)
	10°C (18°F)	15.3 (52000)	15.3 (52000)	1.00	0.43 (6.9)	5.5 (1.8)
	11.1°C (20°F)	13.1 (45000)	13.1 (45000)	1.00	0.34 (5.4)	3.6 (1.2)
40.50°C DB, 21.5°C WB (105°F DB, 71°F WB)						
	5.5°C (10°F)	27.1 (93000)	27.1 (93000)	1.00	1.32 (21.0)	42.6 (14.3)
	6.6°C (12°F)	25.7 (88000)	25.7 (88000)	1.00	1.03 (16.3)	27.1 (9.1)
	7.7°C (14°F)	24.2 (83000)	24.2 (83000)	1.00	0.84 (13.3)	18.4 (6.2)
	8.8°C (16°F)	22.6 (78000)	22.6 (78000)	1.00	0.69 (11.0)	12.8 (4.3)
	10°C (18°F)	21.1 (72000)	21.1 (72000)	1.00	0.58 (9.2)	9.3 (3.1)
	11.1°C (20°F)	19.4 (66000)	19.4 (66000)	1.00	0.48 (7.6)	6.6 (2.2)
43.33°C DB, 22.4°C WB (110°F DB, 72°F WB)						
	5.5°C (10°F)	32.7 (111000)	32.7 (111000)	1.00	1.56 (24.7)	58.0 (19.4)
	6.6°C (12°F)	31.1 (106000)	31.1 (106000)	1.00	1.21 (19.2)	36.2 (12.1)
	7.7°C (14°F)	29.8 (102000)	29.8 (102000)	1.00	1.02 (16.2)	26.3 (8.8)
	8.8°C (16°F)	28.4 (97000)	28.4 (97000)	1.00	0.86 (13.6)	19.2 (6.4)
	10°C (18°F)	26.6 (92000)	26.6 (92000)	1.00	0.72 (11.5)	13.9 (4.7)
	11.1°C (20°F)	25.1 (86000)	25.1 (86000)	1.00	0.61 (9.7)	10.3 (3.4)
46.11°C DB, 23.3°C WB (115°F DB, 74°F WB)						
	5.5°C (10°F)	38.1 (130000)	38.1 (130000)	1.00	1.80 (28.6)	76.5 (25.6)
	6.6°C (12°F)	36.6 (125000)	36.6 (125000)	1.00	1.41 (22.4)	48.3 (16.2)
	7.7°C (14°F)	35.5 (121000)	35.5 (121000)	1.00	1.21 (19.1)	35.8 (12.0)
	8.8°C (16°F)	34.1 (116000)	34.1 (116000)	1.00	1.02 (16.2)	26.3 (8.8)
	10°C (18°F)	32.6 (111000)	32.6 (111000)	1.00	0.87 (13.8)	19.5 (6.5)
	11.1°C (20°F)	31.1 (106000)	31.1 (106000)	1.00	0.75 (11.8)	14.8 (4.9)

Temperature DB, WB °C (°F)	CW Delta T °C (°F)	Total Net Capacity	Sensible Net Capacity	Sensible Heat Ratio	CW Flow Rate	Total CW Pressure Drop
		kW (BTU/hr)	kW (BTU/hr)	SHR	l/s (GPM)	kPa (ft H2O)
48.89°C DB, 23.9°C WB (120°F DB, 75°F WB)						
	6.6°C (12°F)	42.2 (144000)	42.2 (144000)	1.00	1.61 (25.5)	63.6 (21.3)
	7.7°C (14°F)	41.0 (140000)	41.0 (140000)	1.00	1.38 (21.9)	46.3 (15.5)
	8.8°C (16°F)	39.7 (136000)	39.7 (136000)	1.00	1.18 (18.7)	34.5 (11.6)
	10°C (18°F)	38.3 (131000)	38.3 (131000)	1.00	1.01 (16.0)	25.8 (8.7)
	11.1°C (20°F)	37.0 (126000)	37.0 (126000)	1.00	0.88 (14.0)	20.0 (6.7)

Note: Any CW flow rate of 3.0 GPM-5.0 GPM may have increased error in Flow Rate and Power Calculation. A Fluid Flow Fault may result. Any flow rate under 3.0 GPM may also display as 0 in Flow Rate and Power Calculation.

ACRC500 Series/ACRP500 Series

Performance Specifications 5.6°C (42°F) EWT

Temperature DB, WB °C (°F)	CW Delta T °C (°F)	Total Net Capacity	Sensible Net Capacity	Sensible Heat Ratio	CW Flow Rate	Total CW Pressure Drop
		kW (BTU/hr)	kW (BTU/hr)	SHR	l/s (GPM)	kPa (ft H2O)
26.7°C DB, 17.1°C WB (80°F DB, 62.8°F WB)						
	6.6°C (12°F)	44.3 (151000)	40.7 (139000)	0.92	1.6 (25.9)	66 (21.95)
	7.7°C (14°F)	40.8 (139000)	37.9 (129000)	0.93	1.3 (20.6)	42 (14.1)
	8.8°C (16°F)	37.8 (129000)	35.2 (120000)	0.93	1.1 (16.8)	29 (9.5)
	10°C (18°F)	34.6 (118000)	32.5 (111000)	0.94	0.9 (13.8)	19 (6.5)
	11.1°C (20°F)	31.8 (109000)	29.9 (102000)	0.94	0.7 (11.5)	14 (4.6)
29.4°C DB, 18.1°C WB (85°F DB, 64.5°F WB)						
	6.6°C (12°F)	50.8 (174000)	47.8 (163000)	0.94	1.9 (29.5)	84 (28.4)
	7.7°C (14°F)	47.7 (163000)	44.8 (153000)	0.94	1.5 (23.9)	56 (18.7)
	8.8°C (16°F)	44.1 (151000)	41.9 (143000)	0.95	1.2 (19.4)	38 (12.5)
	10°C (18°F)	41.2 (141000)	39.1 (134000)	0.95	1.0 (16.2)	26 (8.8)
	11.1°C (20°F)	37.8 (129000)	36.3 (124000)	0.96	0.8 (13.5)	19 (6.2)
32.2°C DB, 18.9°C WB (90°F DB, 66.1°F WB)						
	7.7°C (14°F)	54.5 (186000)	52.3 (179000)	0.96	1.7 (27.1)	71 (23.8)
	8.8°C (16°F)	51.4 (175000)	49.3 (168000)	0.96	1.4 (22.4)	49 (16.6)
	10°C (18°F)	47.8 (163000)	46.3 (158000)	0.97	1.2 (18.6)	35 (11.6)
	11.1°C (20°F)	44.8 (153000)	43.4 (148000)	0.97	1.0 (15.7)	25 (8.32)
35.0°C DB, 19.8°C WB (95°F DB, 67.7°F WB)						
	7.7°C (14°F)	62.0 (212000)	60.2 (205000)	0.97	1.9 (30.6)	90 (30.3)
	8.8°C (16°F)	58.8 (201000)	57.0 (195000)	0.97	1.6 (25.4)	63 (21.3)
	10°C (18°F)	55.6 (190000)	53.9 (184000)	0.97	1.4 (21.4)	45 (15.2)
	11.1°C (20°F)	52.4 (179000)	50.9 (174000)	0.97	1.2 (18.3)	33 (11.1)
37.8°C DB, 20.7°C WB (100°F DB, 69.2°F WB)						
	8.8°C (16°F)	66.4 (227000)	65.0 (222000)	0.98	1.8 (28.6)	79 (26.6)
	10°C (18°F)	63.1 (215000)	61.8 (211000)	0.98	1.5 (24.2)	57 (19.2)
	11.1°C (20°F)	59.8 (204000)	58.7 (200000)	0.98	1.3 (20.7)	42 (14.3)
40.6°C DB, 21.6°C WB (105°F DB, 70.8°F WB)						
	8.8°C (16°F)	74.8 (256000)	73.3 (250000)	0.98	2.0 (32.1)	99 (33.3)
	10°C (18°F)	71.4 (244000)	70.0 (239000)	0.98	1.7 (27.3)	72 (24.3)
	11.1°C (20°F)	68.1 (233000)	66.7 (228000)	0.98	1.5 (23.4)	54 (18.02)

Note: Any CW flow rate of 3.0 GPM-5.0 GPM may have increased error in Flow Rate and Power Calculation. A Fluid Flow Fault may result. Any flow rate under 3.0 GPM may also display as 0 in Flow Rate and Power Calculation.
Note: For ACRC500/ACRP500 series, reduce airflow and cooling capacity specifications by 7% for cooling units run at low input voltage (380V).

Performance Specifications 7.2°C (45°F) EWT (ACRC500/ACRP500)

Temperature DB, WB °C (°F)	CW Delta T °C (°F)	Total Net Capacity	Sensible Net Capacity	Sensible Heat Ratio	CW Flow Rate	Total CW Pressure Drop
		kW (BTU/hr)	kW (BTU/hr)	SHR	l/s (GPM)	kPa (ft H2O)
26.7°C DB, 17.1°C WB (80°F DB, 62.8°F WB)						
	5.5°C (10°F)	40.8 (139000)	39.6 (135000)	0.97	1.8 (28.8)	81 (27.03)
	6.6°C (12°F)	37.9 (130000)	36.8 (126000)	0.97	1.4 (22.5)	50 (16.6)
	7.7°C (14°F)	35.1 (120000)	34.1 (116000)	0.97	1.1 (18.0)	32 (10.9)
	8.8°C (16°F)	32.5 (111000)	31.5 (108000)	0.97	0.9 (14.6)	22 (7.4)
	10°C (18°F)	29.8 (102000)	28.9 (99000)	0.97	0.8 (12.0)	15 (5.1)
	11.1°C (20°F)	27.3 (93000)	26.5 (90000)	0.97	0.6 (10.0)	11 (3.7)
29.4°C DB, 18.1°C WB (85°F DB, 64.5°F WB)						
	6.6°C (12°F)	45.0 (154000)	43.7 (149000)	0.97	1.7 (26.4)	68 (22.6)
	7.7°C (14°F)	42.0 (144000)	40.8 (139000)	0.97	1.3 (21.2)	44 (14.8)
	8.8°C (16°F)	39.1 (134000)	38.0 (130000)	0.97	1.1 (17.4)	30 (10.2)
	10°C (18°F)	36.3 (124000)	35.2 (120000)	0.97	0.9 (14.4)	21 (7.2)
	11.1°C (20°F)	33.3 (114000)	32.6 (111000)	0.98	0.8 (11.9)	15 (5.1)
32.2°C DB, 18.9°C WB (90°F DB, 66.1°F WB)						
	6.6°C (12°F)	52.3 (179000)	51.2 (175000)	0.98	1.9 (30.4)	89 (29.8)
	7.7°C (14°F)	49.2 (168000)	48.2 (165000)	0.98	1.5 (24.5)	59 (19.9)
	8.8°C (16°F)	46.1 (157000)	45.2 (154000)	0.98	1.3 (20.2)	41 (13.6)
	10°C (18°F)	42.7 (146000)	42.3 (144000)	0.99	1.1 (16.7)	28 (9.5)
	11.1°C (20°F)	39.8 (136000)	39.4 (135000)	0.99	0.9 (14.1)	20 (6.9)
35.0°C DB, 19.8°C WB (95°F DB, 67.7°F WB)						
	7.7°C (14°F)	57.2 (195000)	56.0 (191000)	0.98	1.8 (28.3)	78 (26.1)
	8.8°C (16°F)	53.4 (182000)	52.9 (181000)	0.99	1.5 (23.2)	53 (17.8)
	10°C (18°F)	50.3 (172000)	49.8 (170000)	0.99	1.2 (19.5)	38 (12.7)
	11.1°C (20°F)	47.2 (161000)	46.7 (160000)	0.99	1.0 (16.5)	28 (9.2)
37.8°C DB, 20.7°C WB (100°F DB, 69.2°F WB)						
	8.8°C (16°F)	61.6 (210000)	61.0 (208000)	.99	1.7 (26.6)	69 (23.1)
	10°C (18°F)	58.3 (199000)	57.7 (197000)	.99	1.4 (22.4)	50 (16.6)
	11.1°C (20°F)	55.1 (188000)	54.5 (186000)	.99	1.2 (19.1)	36 (12.2)
40.6°C DB, 21.6°C WB (105°F DB, 70.8°F WB)						
	8.8°C (16°F)	69.6 (238000)	69.6 (238000)	1.00	1.9 (29.9)	86 (28.9)
	10°C (18°F)	66.1 (226000)	66.1 (226000)	1.00	1.6 (25.3)	63 (21.02)
	11.1°C (20°F)	62.7 (214000)	62.7 (214000)	1.00	1.4 (21.7)	46 (15.5)

Note: Any CW flow rate of 3.0 GPM-5.0 GPM may have increased error in Flow Rate and Power Calculation. A Fluid Flow Fault may result. Any flow rate under 3.0 GPM may also display as 0 in Flow Rate and Power Calculation.
Note: Reduce airflow and cooling capacity specifications by 7% for cooling units run at low input voltage (380V).

Performance Specifications 8.8°C (48°F) EWT (ACRC500/ACRP500)

Temperature DB, WB °C (°F)	CW Delta T °C (°F)	Total Net Capacity	Sensible Net Capacity	Sensible Heat Ratio	CW Flow Rate	Total CW Pressure Drop
		kW (BTU/hr)	kW (BTU/hr)	SHR	l/s (GPM)	kPa (ft H2O)
26.7°C DB, 17.1°C WB (80°F DB, 62.8°F WB)						
	5.5°C (10°F)	35.7 (122000)	34.6 (118000)	0.97	1.6 (25.5)	63 (21.3)
	6.6°C (12°F)	32.9 (112000)	31.9 (109000)	0.97	1.2 (19.7)	39 (12.9)
	7.7°C (14°F)	30.3 (103000)	29.4 (100000)	0.97	1.0 (15.7)	25 (8.3)
	8.8°C (16°F)	27.7 (95000)	26.9 (92000)	0.97	0.8 (12.7)	17 (5.5)
	10°C (18°F)	25.3 (86000)	24.5 (84000)	0.97	0.7 (10.4)	11 (3.9)
29.4°C DB, 18.1°C WB (85°F DB, 64.5°F WB)						
	5.5°C (10°F)	42.3 (145000)	41.5 (142000)	0.98	1.9 (29.9)	86 (28.9)
	6.6°C (12°F)	39.4 (134000)	38.6 (132000)	0.98	1.5 (23.3)	53 (17.8)
	7.7°C (14°F)	36.5 (125000)	35.8 (122000)	0.98	1.2 (18.6)	35 (11.6)
	8.8°C (16°F)	33.7 (115000)	33.1 (113000)	0.98	1.0 (15.1)	23 (7.9)
	10°C (18°F)	31.1 (106000)	30.4 (104000)	0.98	0.8 (12.5)	16 (5.3)
	11.1°C (20°F)	28.5 (97000)	27.9 (95000)	0.98	0.7 (10.4)	12 (3.9)
32.2°C DB, 18.9°C WB (90°F DB, 66.1°F WB)						
	6.6°C (12°F)	47.0 (161000)	46.1 (157000)	0.98	1.7 (27.5)	73 (24.5)
	7.7°C (14°F)	43.9 (150000)	43.0 (147000)	0.98	1.4 (22.1)	48 (16.2)
	8.8°C (16°F)	40.9 (140000)	40.1 (137000)	0.98	1.1 (18.1)	33 (10.9)
	10°C (18°F)	37.6 (128000)	37.2 (127000)	0.99	0.9 (14.9)	23 (7.6)
	11.1°C (20°F)	34.8 (119000)	34.4 (118000)	0.99	0.8 (12.5)	16 (5.3)
35.0°C DB, 19.8°C WB (95°F DB, 67.7°F WB)						
	7.7°C (14°F)	51.4 (176000)	50.9 (174000)	0.99	1.6 (25.6)	64 (21.5)
	8.8°C (16°F)	48.2 (165000)	47.7 (163000)	0.99	1.3 (21.1)	44 (14.8)
	10°C (18°F)	45.0 (154000)	44.6 (152000)	0.99	1.1 (17.6)	31 (10.4)
	11.1°C (20°F)	42.0 (143000)	41.6 (142000)	0.99	0.9 (14.8)	22 (7.6)
37.8°C DB, 20.7°C WB (100°F DB, 69.2°F WB)						
	7.7°C (14°F)	60.0 (205000)	59.4 (203000)	0.99	1.9 (29.7)	85 (28.6)
	8.8°C (16°F)	56.0 (191000)	56.0 (191000	1.00	1.5 (24.3)	58 (19.4)
	10°C (18°F)	52.6 (180000)	52.6 (180000	1.00	1.3 (20.4)	41 (13.9)
	11.1°C (20°F)	49.4 (169000)	49.4 (169000)	1.00	1.1 (17.3)	30 (9.9)
40.6°C DB, 21.6°C WB (105°F DB, 70.8°F WB)						
	7.7°C (14°F)	68.6 (234000)	68.6 (234000)	1.00	2.1 (33.7)	109 (36.5)
	8.8°C (16°F)	64.9 (222000)	64.9 (222000)	1.00	1.8 (28.0)	76 (25.4)
	10°C (18°F)	61.3 (209000)	61.3 (209000)	1.00	1.5 (23.5)	54 (18.2)

Note: Any CW flow rate of 3.0 GPM-5.0 GPM may have increased error in Flow Rate and Power Calculation. A Fluid Flow Fault may result. Any flow rate under 3.0 GPM may also display as 0 in Flow Rate and Power Calculation.
Note: For ACRC500/ACRP500 series, reduce airflow and cooling capacity specifications by 7% for cooling units run at low input voltage (380V).

Performance Specifications 10°C (50°F) EWT (ACRC500/ACRP500)

Temperature DB, WB °C (°F)	CW Delta T °C (°F)	Model Series	Total Net Capacity	Sensible Net Capacity	Sensible Heat Ratio	CW Flow Rate	Total CW Pressure Drop
			kW (BTU/hr)	kW (BTU/hr)	SHR	l/s (GPM)	kPa (ft H2O)
26.7°C DB, 17.1°C WB (80°F DB, 62.8°F WB)							
	5.5°C (10°F)	ACRC500/ACRP500	32.6 (111000)	31.8 (109000)	0.98	1.5 (23.5)	54 (18.02)
	6.6°C (12°F)	ACRC500/ACRP500	29.9 (102000)	29.2 (100000)	0.98	1.1 (18.1)	33 (11.1)
	7.7°C (14°F)	ACRC500/ACRP500	27.4 (93000)	26.7 (91000)	0.98	0.9 (14.3)	21 (6.9)
	8.8°C (16°F)	ACRC500/ACRP500	24.9 (85000)	24.3 (83000)	0.98	0.7 (11.5)	14 (4.6)
	10°C (18°F)	ACRC500/ACRP500	22.6 (77000)	22.0 (75000)	0.98	0.6 (9.4)	10 (3.2)
	11.1°C (20°F)	ACRC500/ACRP500	20.4 (70000)	19.9 (68000)	0.98	0.5 (7.7)	7 (2.3)
29.4°C DB, 18.1°C WB (85°F DB, 64.5°F WB)							
	5.5°C (10°F)	ACRC500/ACRP500	39.6 (135000)	38.6 (132000)	0.98	1.8 (28.0)	76 (25.6)
	6.6°C (12°F)	ACRC500/ACRP500	36.6 (125000)	35.7 (122000)	0.98	1.4 (21.8)	47 (15.7)
	7.7°C (14°F)	ACRC500/ACRP500	33.8 (115000)	32.9 (112000)	0.98	1.1 (17.3)	30 (10.2)
	8.8°C (16°F)	ACRC500/ACRP500	31.1 (106000)	30.3 (103000)	0.98	0.9 (14.0)	20 (6.7)
	10°C (18°F)	ACRC500/ACRP500	28.5 (97000)	27.7 (95000)	0.98	0.7 (11.5)	14 (4.6)
	11.1°C (20°F)	ACRC500/ACRP500	26.0 (89000)	25.3 (86000)	0.98	0.6 (9.5)	10 (3.2)
32.2°C DB, 18.9°C WB (90°F DB, 66.1°F WB)							
	6.6°C (12°F)	ACRC500	43.6 (149000)	43.2 (147000)	0.99	1.6 (25.6)	64 (21.5)
	7.7°C (14°F)	ACRC500/ACRP500	40.5 (138000)	40.1 (137000)	0.99	1.3 (20.5)	42 (13.9)
	8.8°C (16°F)	ACRC500/ACRP500	37.6 (128000)	37.2 (127000)	0.99	1.1 (16.7)	28 (9.5)
	10°C (18°F)	ACRC500/ACRP500	34.7 (119000)	34.4 (117000)	0.99	0.9 (13.8)	20 (6.5)
	11.1°C (20°F)	ACRC500/ACRP500	32.0 (109000)	31.7 (108000)	0.99	0.7 (11.5)	14 (4.6)
35.0°C DB, 19.8°C WB (95°F DB, 67.7°F WB)							
	6.6°C (12°F)	ACRC500/ACRP500	51.9 (177000)	51.4 (175000)	0.99	1.9 (30.1)	88 (29.3)
	7.7°C (14°F)	ACRC500/ACRP500	48.5 (166000)	48.0 (164000)	0.99	1.5 (24.2)	58 (19.4)
	8.8°C (16°F)	ACRC500/ACRP500	45.3 (155000)	44.8 (153000)	0.99	1.3 (19.9)	39 (13.2)
	10°C (18°F)	ACRC500/ACRP500	42.1 (144000)	41.7 (142000)	0.99	1.0 (16.5)	28 (9.2)
	11.1°C (20°F)	ACRC500/ACRP500	38.7 (132000)	38.7 (132000)	1.00	0.9 (13.7)	19 (6.5)
37.8°C DB, 20.7°C WB (100°F DB, 69.2°F WB)							
	7.7°C (14°F)	ACRC500/ACRP500	56.7 (194000)	56.7 (194000)	1.00	1.8 (28.1)	77 (25.6)
	8.8°C (16°F)	ACRC500/ACRP500	53.2 (182000)	53.2 (182000)	1.00	1.5 (23.1)	53 (17.6)
	10°C (18°F)	ACRC500/ACRP500	49.8 (170000)	49.8 (170000)	1.00	1.2 (19.3)	37 (12.5)
40.6°C DB, 21.6°C WB (105°F DB, 70.8°F WB)							
	8.8°C (16°F)	ACRC500/ACRP500	62.3 (213000)	62.3 (213000)	1.00	1.7 (26.9)	70 (23.6)

Note: Any CW flow rate of 3.0 GPM-5.0 GPM may have increased error in Flow Rate and Power Calculation. A Fluid Flow Fault may result. Any flow rate under 3.0 GPM may also display as 0 in Flow Rate and Power Calculation.
Note: For ACRC500/ACRP500 series, reduce airflow and cooling capacity specifications by 7% for cooling units run at low input voltage (380V).

Performance Specifications 12.7°C (55°F) EWT (ACRC500/ACRP500)

Temperature DB, WB °C (°F)	CW Delta T °C (°F)	Total Net Capacity	Sensible Net Capacity	Sensible Heat Ratio	CW Flow Rate	Total CW Pressure Drop
		kW (BTU/hr)	kW (BTU/hr)	SHR	l/s (GPM)	kPa (ft H2O)
26.7°C DB, 17.1°C WB (80°F DB, 62.8°F WB)						
	5.5°C (10°F)	24.7 (85000)	24.7 (85000)	1.00	1.2 (18.3)	33 (11.3)
	6.6°C (12°F)	22.3 (76000)	22.3 (76000)	1.00	0.9 (13.9)	20 (6.7)
	7.7°C (14°F)	20.0 (68000)	20.0 (68000)	1.00	0.7 (10.8)	12 (4.2)
	8.8°C (16°F)	17.8 (61000)	17.8 (61000)	1.00	0.5 (8.6)	8 (2.8)
	10°C (18°F)	15.8 (54000)	15.8 (54000)	1.00	0.4 (6.9)	5 (1.8)
	11.1°C (20°F)	13.9 (48000)	13.9 (48000)	1.00	0.4 (5.6)	4 (1.2)
29.4°C DB, 18.1°C WB (85°F DB, 64.5°F WB)						
	5.5°C (10°F)	31.3 (107000)	31.3 (107000)	1.00	1.4 (22.6)	50 (16.9)
	6.6°C (12°F)	28.5 (97000)	28.5 (97000)	1.00	1.1 (17.3)	30 (10.2)
	7.7°C (14°F)	25.8 (88000)	25.8 (88000)	1.00	0.9 (13.6)	19 (6.5)
	8.8°C (16°F)	23.3 (80000)	23.3 (80000)	1.00	0.7 (10.8)	8 (4.2)
	10°C (18°F)	21.0 (72000)	21.0 (72000)	1.00	0.6 (8.8)	8 (2.8)
	11.1°C (20°F)	18.7 (64000)	18.7 (64000)	1.00	0.5 (7.2)	6 (1.8)
32.2°C DB, 18.9°C WB (90°F DB, 66.1°F WB)						
	5.5°C (10°F)	39.1 (133000)	39.1 (133000)	1.00	1.7 (27.7)	75 (24.9)
	6.6°C (12°F)	35.9 (123000)	35.9 (123000)	1.00	1.3 (21.3)	45 (15.02)
	7.7°C (14°F)	32.8 (112000)	32.8 (112000)	1.00	1.1 (16.9)	29 (9.7)
	8.8°C (16°F)	30.0 (102000)	30.0 (102000)	1.00	0.9 (13.6)	19 (6.5)
	10°C (18°F)	27.2 (93000)	27.2 (93000)	1.00	0.7 (11.1)	13 (4.4)
35.0°C DB, 19.8°C WB (95°F DB, 67.7°F WB)						
	6.6°C (12°F)	44.2 (151000)	44.2 (151000)	1.00	1.6 (25.9)	66 (21.9)
	7.7°C (14°F)	40.8 (139000)	40.8 (139000)	1.00	1.3 (20.6)	42 (14.1)
	8.8°C (16°F)	37.5 (128000)	37.5 (128000)	1.00	1.1 (16.7)	28 (9.5)
37.8°C DB, 20.7°C WB (100°F DB, 69.2°F WB)						
	7.7°C (14°F)	49.8 (170000)	49.8 (170000)	1.00	1.6 (24.8)	60 (20.1)
40.6°C DB, 21.6°C WB (105°F DB, 70.8°F WB)						
	7.7°C (14°F)	59.7 (204000)	59.7 (204000)	1.00	1.9 (29.5)	84 (28.2)

Note: Any CW flow rate of 3.0 GPM-5.0 GPM may have increased error in Flow Rate and Power Calculation. A Fluid Flow Fault may result. Any flow rate under 3.0 GPM may also display as 0 in Flow Rate and Power Calculation.
Note: For ACRC500/ACRP500 series, reduce airflow and cooling capacity specifications by 7% for cooling units run at low input voltage (380V).

Performance Specifications 15.5°C (60°F) EWT (ACRC500/ACRP500)

Temperature DB, WB °C (°F)	CW Delta T °C (°F)	Total Net Capacity	Sensible Net Capacity	Sensible Heat Ratio	CW Flow Rate	Total CW Pressure Drop
		kW (BTU/hr)	kW (BTU/hr)	SHR	l/s (GPM)	kPa (ft H2O)
26.7°C DB, 17.1°C WB (80°F DB, 62.8°F WB)						
	5.5°C (10°F)	17.5 (60000)	17.5 (60000)	1.00	0.9 (13.5)	19 (6.2)
	6.6°C (12°F)	15.2 (52000)	15.2 (52000)	1.00	0.6 (10.0)	11 (3.7)
	7.7°C (14°F)	13.1 (45000)	13.1 (45000)	1.00	0.5 (7.6)	6 (2.1)
	8.8°C (16°F)	11.1 (38000)	11.1 (38000)	1.00	0.4 (5.8)	4 (1.4)
	10°C (18°F)	9.3 (32000)	9.3 (32000)	1.00	0.3 (4.5)	3 (0.9)
	11.1°C (20°F)	7.7 (26000)	7.7 (26000)	1.00	0.2 (3.5)	2 (0.5)
29.4°C DB, 18.1°C WB (85°F DB, 64.5°F WB)						
	5.5°C (10°F)	23.8 (81000)	23.8 (81000)	1.00	1.1 (17.7)	31 (10.4)
	6.6°C (12°F)	21.1 (72000)	21.1 (72000)	1.00	0.8 (13.2)	18 (6.01)
	7.7°C (14°F)	18.5 (63000)	18.5 (63000)	1.00	0.6 (10.1)	11 (3.7)
	8.8°C (16°F)	16.1 (55000)	16.1 (55000)	1.00	0.5 (7.9)	7 (2.3)
32.2°C DB, 18.9°C WB (90°F DB, 66.1°F WB)						
	5.5°C (10°F)	31.5 (108000)	31.5 (108000)	1.00	1.4 (22.8)	51 (17.1)
	6.6°C (12°F)	28.3 (97000)	28.3 (97000)	1.00	1.1 (17.2)	30 (9.9)
35.0°C DB, 19.8°C WB (95°F DB, 67.7°F WB)						
	5.5°C (10°F)	40.6 (139000)	40.6 (139000)	1.00	1.8 (28.7)	80 (26.8)

Note: Any CW flow rate of 3.0 GPM-5.0 GPM may have increased error in Flow Rate and Power Calculation. A Fluid Flow Fault may result. Any flow rate under 3.0 GPM may also display as 0 in Flow Rate and Power Calculation.
Note: For ACRC500/ACRP500 series, reduce airflow and cooling capacity specifications by 7% for cooling units run at low input voltage (380V).

Performance Data—General

ACRC301S

MODULATING VALVES			
	Size 3 Way Ball Valve – NPT mm (in.) (Cv)	25.4 (1) (30.8)	
AIR SYSTEM			
	200-mm (7.9-in) MIXED FLOW DIRECT DRIVE DC TUBEAXIAL FANS	Standard Filter	51-mm (2-in.) Pleated Filter
	Air Volume - l/s (SCFM)	1510 (3200)	1345 (2850)
	Fan Motor - Watts (each)	112.5	122.5
	Number of Fans	8	8
	Performance Specifications Table Multiplier*	1.0	.94
WATER TEMPERATURE			
	Minimum Entering Temperature - ºC (ºF)	5 (41)	
	Maximum Entering Temperature - ºC (ºF)	15 (55.4)	
COOLING COIL - COPPER TUBE/ALUMINUM FIN			
	Face Area - m^2 (ft^2)	0.510 (5.5)	
	Rows Deep	3	
	Face Velocity - m/s (FPM)	2.95 (582)	
FILTERS - WASHABLE (STANDARD)			
	Quantity	2	
	Size - mm (in.)	238 x 933 (9.375 x 36.75)	
	Depth - mm (in.)	12.7 (1/2)	
	Efficiency (%)	<20% MERV 1	
FILTERS - PLEATED (OPTIONAL)			
	Quantity	2	
	Size - mm (in.)	238 x 933 (9.375 x 36.75)	
	Depth - mm (in.)	51 (2)	
	Efficiency (%)	30% MERV 8	
PHYSICAL DATA			
	Net Weight - kg (lbs)	184 (406)	
	Operating Weight – kg (lbs)	192 (423)	
	Height - mm (in.)	1991 (78.39)	
	Width - mm (in.)	300 (11.81)	
	Depth - mm (in.)	1095 (43.11)	
CONNECTION SIZES			
	Chilled Water	Supply Line - mm (in.)	25.4 (1) NPT Connection
		Return Line - mm (in.)	25.4 (1) NPT Connection
	Condensate Drain	Drain Line - mm (in)	4.77 (3/16) ID, 6.35 (1/4) OD
DUAL FLOAT CONDENSATE MANAGEMENT			
	Flow Rate- L/hr (GPH)	5 (1.3)	
	Maximum Distance - m (ft)†	15.2 (50)	
	Maximum Lift - m (ft)	4.9 (16)	

Maximum flow rate is 4720 l/hr (20.8 GPM) for continuous operation.
Maximum working pressure for the unit is 2068.4 kPa (300 psig).
†Maximum distance includes the maximum lift.
*Example: Performance at 29.4°C DB, 18.1°C WB (85°F DB, 64.5°F WB) with a 7.2°C (45°F) EWT, and a 5.5°C (10°F) CW delta T is 21.8 kW (74000 BTU/hr) (total net capacity) with the standard filter. Using a 50-mm (2-in) pleated filter with single fan failure, the performance of the unit would be 21.8 X 0.94 = 20.5 kW (74000 X .94 = 69560 BTU/hr).

ACRC301H**

MODULATING VALVES			
	Size 3-Way Ball Valve – NPT mm (in.) (Cv)	31.75 (1 1/4) (34.1)	
AIR SYSTEM			
	200-mm (7.9-in.) MIXED FLOW DIRECT DRIVE DC TUBEAXIAL FANS	Standard Filter	51-mm (2-in.) Pleated Filter
	Air Volume - l/s (SCFM)	1982 (4200)	1793 (3800)
	Fan Motor - Watts (each)	225	240
	Number of Fans	8	8
	Performance Specifications Table Multiplier*	1.0	.94
WATER TEMPERATURE			
	Minimum Entering Temperature - ºC (ºF)	10 (50)	
	Maximum Entering Temperature - ºC (ºF)	22 (71.6)	
COOLING COIL - COPPER TUBE/ALUMINUM FIN			
	Face Area - m^2 (ft^2)	0.65 (7.0)	
	Rows Deep	6	
	Face Velocity - m/s (FPM)	3.05 (600)	
FILTERS - WASHABLE (STANDARD)			
	Quantity	2	
	Size - mm (in)	238 x 933 (9.375 x 36.75)	
	Depth - mm (in)	12.7 (1/2)	
	Efficiency (%)	<20% MERV 1	
FILTERS - PLEATED (OPTIONAL)			
	Quantity	2	
	Size - mm (in.)	238 x 933 (9.375 x 36.75)	
	Depth - mm (in.)	51 (2)	
	Efficiency (%)	30% MERV 8	
PHYSICAL DATA			
	Net Weight - kg (lbs)	210 (463)	
	Operating Weight – kg (lbs)	220 (485)	
	Height - mm (in.)	1991 (78.39)	
	Width - mm (in.)	300 (11.81)	
	Depth - mm (in.)	1095 (43.11)	
POWER CONNECTION			
	Minimum Input Wire Size - AWG	14	
CONNECTION SIZES			
	Chilled Water	Supply Line - mm (in.)	31.75 (1 1/4) NPT Connection
		Return Line - mm (in.)	31.75 (1 1/4) NPT Connection

Maximum flow rate is 7020 l/hr (30.9 GPM) for continuous operation.
Maximum working pressure for the unit is 2068.4 kPa (300 psig).
*Example: Performance at 29.4°C DB, 18.1°C WB (85° DB, 64.5°F WB) with a 10°C (50°F) EWT, and a 5.5°C (10°F) CW delta T is 27.3 kW (93000 BTU/hr) (total net capacity) with the standard filter. Using a 50-mm (2-in) pleated filter with single fan failure, the performance of the unit would be 27.3 X 0.94 = 25.7 kW (93000 X .94 = 87420 BTU/hr).
**If ACRC301H contains the circulation pump kit, the maximum operational water pressure will be 1600 kPa (232 psig).

ACRC500/ACRP500 series

MODULATING VALVES			
	Size 3-Way Ball Valve - NPT mm (in.)		25.4 (1)
AIR SYSTEM 400-mm (15.8-in) BACKWARD INCLINE DIRECT DRIVE FANS (Standard Filter Installed)			
	Air Volume - l/s (SCFM)		2832 (6000)
	Fan Motor - kW (HP)		1.00 (1.5)
	Number of Fans		3
COOLING COIL - COPPER TUBE/ALUMINUM FIN			
	Face Area - m^2 (ft^2)		0.74 (7.9)
	Rows Deep		4
	FPM (FPI)		468 (12)
FILTERS - PLEATED (STANDARD)			
	Quantity		4
	Size - mm (in.)		418 x 470 (16.45 x 18.5)
	Depth - mm (in.)		101.6 (4)
	Efficiency (%)		30
FILTERS - PLEATED (OPTIONAL)			
	Quantity		4
	Size - mm (in.)		418 x 470 (16.45 x 18.5)
	Depth - mm (in.)		101.6 (4)
	Efficiency (%)		85
PHYSICAL DATA			
	Net Weight - kg (lbs)	ACRC500	345 (760)
		ACRP500	352 (776)
	Operating Weight – kg (lbs)	ACRC500	363(800)
		ACRP500	370 (816)
	Height - mm (in.)		1991 (78.40)
	Width - mm (in.)		600 (23.62)
	Depth - mm (in.)		1070 (42.13)
CONNECTION SIZES			
	Chilled Water	Supply Line - mm (in.)	38.1 (1 1/2) NPSM
		Return Line - mm (in.)	38.1 (1 1/2) NPSM
	Condensate Drain	Drain Line - mm (in.)	9.5 (3/8) ID, 12.7 (1/2) OD
	Humidifier (ACRP500 series only)	Supply line-mm (in.)	6.35 (1/4)
DUAL FLOAT CONDENSATE MANAGEMENT			
	Flow Rate - L/m (GPH)		0.53 (8.45)
	Maximum Distance - m (ft)†		18 (60)
	Maximum Lift - m (ft)		3.5 (11.5)
HUMIDIFICATION – SOLID STATE ELECTRODE CANISTER (ACRP500 series only)			
	Flush Cycle		Automatic
	Capacity – kg/hr (lbs/hr)		3.0 (6.6)
	kW		2.25
REHEAT – ELECTRIC (Equally Loaded Three Stage, Finned Tubular, Low-Watt Density) (ACRP500 series only)			
	Capacity – kW (BTU/hr)		9.0 (30,700)
	Stages		3

Maximum flow rate is 2.08 l/s (33 GPM) for continuous operation. May be exceeded by 25% for peak loads.
Maximum working pressure for the unit is 2068.4 kPa (300 psig).
†Maximum distance includes the maximum lift.
Note: For ACRC500/ACRP500 series, reduce airflow and cooling capacity specifications by 7% for cooling units run at low input voltage (380V).

Glycol Correction Factors

Performance Criteria	Glycol Solution	Percent Volume of Solution ***					
		0	10%	20%	30%	40%	50%
Capacity*	Ethylene	1.00	0.96	0.94	0.91	0.87	0.84
	Propylene	1.00	0.98	0.97	0.94	0.91	0.88
Pressure Drop**	Ethylene	1.00	1.04	1.14	1.24	1.36	1.50
	Propylene	1.00	1.10	1.23	1.43	1.67	1.92

Values are derived using the Darcy-Weisbach pressure drop equation at 50°F and 1 atmosphere and Type L copper pipe.
All correction factors for ACRC301S SKU is based on unit entering conditions of 29.4°C (85°F) DB/18.1°C (64.5°F) WB, 1510 L/S (3200 CFM), 0.83 L/S (13.2 GPM), and 7.2°C (45°F) EFT.
All correction factors for ACRC301H SKU is based on unit entering conditions of 29.4°C (85°F) DB/18.1°C (64.5°F) WB, 1980 L/S (4200 CFM), 1.06 L/S (16.7 GPM), and 15°C (59°F) EFT.
All correction factors for ACRC500 series models are based on the unit entering the following conditions: 29.4°C (85°F) DB/18.1°C (64.5°F) WB,2832 l/s (6000 CFM), 1.72 l/s (27.3 GPM), and 7.2°C (45°F) EFT.
*Multiply capacity of device or system by factor above for % solution.
**Multiply pressure drop of system by factor above for % solution.
***Glycol concentrations over 50% are not recommended.

Performance Criteria	Glycol Solution	Percent Mass of Solution ***					
		0	10%	20%	30%	40%	50%
Capacity*	Ethylene	1.00	0.96	0.94	0.91	0.87	0.84
	Propylene	1.00	0.98	0.97	0.94	0.91	0.88
Pressure Drop**	Ethylene	1.00	1.01	1.08	1.14	1.23	1.32
	Propylene	1.00	1.08	1.18	1.35	1.56	1.77

Values are derived using the Darcy-Weisbach pressure drop equation at 50°F and 1 atmosphere and Type L copper pipe.
All correction factors for ACRC301S SKU is based on unit entering conditions of 29.4°C (85°F) DB/18.1°C (64.5°F) WB, 1510 L/S (3200 CFM), 0.83 L/S (13.2 GPM), and 7.2°C (45°F) EFT.
All correction factors for ACRC301H SKU is based on unit entering conditions of 29.4°C (85°F) DB/18.1°C (64.5°F) WB, 1980 L/S (4200 CFM), 1.06 L/S (16.7 GPM), and 15°C (59°F) EFT.
All correction factors for ACRC500 series models are based on the unit entering the following conditions: 29.4°C (85°F) DB/18.1°C (64.5°F) WB,2832 l/s (6000 CFM), 1.72 l/s (27.3 GPM), and 7.2°C (45°F) EFT.
*Multiply capacity of device or system by factor above for % solution.
**Multiply pressure drop of system by factor above for % solution.
***Glycol concentrations over 50% are not recommended.

Altitude Correction Factors

Room Condition: 72 DB/50% RH											
Altitude - m (ft)	0	305 (1,000)	610 (2,000)	915 (3,000)	1219 (4,000)	1524 (5,000)	1829 (6,000)	2134 (7,000)	2438 (8,000)	2743 (9,000)	3048 (10,000)
Specific volume - cm^3/g (ft^3/lb)	847.77 (13.58)	879.61 (14.09)	912.70 (14.62)	947.66 (15.18)	983.86 (15.76)	1021.32 (16.36)	1061.28 (17.00)	1103.10 (17.67)	1146.80 (18.37)	1193.00 (19.11)	1241.69 (19.89)
Density - g/m^3 (lb/ft^3)	1185.37 (0.074)	1137.31 (0.071)	1089.26 (0.068)	1057.22 (0.066)	1009.16 (0.063)	977.13 (0.061)	945.10 (0.059)	913.05 (0.057)	865.00 (0.054)	832.97 (0.052)	800.92 (0.050)
Density Ratio	1.000	0.964	0.929	0.895	0.862	0.830	0.799	0.769	0.739	0.711	0.683
Capacity Correction	1.000	0.981	0.962	0.933	0.913	0.884	0.865	0.846	0.826	0.807	0.787

Density ratio is used for air flow correction factor.
Capacity correction is used for performance de-rating.

Sound Performance Data

ACRC301S Series Tested Sound Data			
Fan Speed%	**Airflow l/s (SCFM)**	**Sound Power dB at Frequency Hz re: 10^{-12}W**	**Lp Sound Pressure dB 20 µPa***
		dBA	**dBA**
30	430 (900)	64.8	49.8
40	610 (1300)	69.6	56.4
60	940 (2000)	78.2	65.4
80	1270 (2700)	87.5	73.8
100	1510 (3200)	90.5	77.1
*Sound tested at 1.8 m (6 ft) distance from the unit and 1 m (3.3 ft) from the floor.			

ACRC301H Series Tested Sound Data			
Fan Speed%	**Airflow l/s (SCFM)**	**Sound Power dB at Frequency Hz re: 10^{-12}W**	**Lp Sound Pressure dB 20 µPa***
		dBA	**dBA**
30	570 (1200)	67	52.5
40	800 (1700)	76.3	62.0
60	1230 (2600)	85.5	71.3
80	1650 (3500)	93	79.0
100	1980 (4200)	95.3	81.3
*Sound tested at 1.8 m (6 ft) distance from the unit and 1 m (3.3 ft) from the floor.			

ACRC500 Series Tested Sound Data			
Fan Speed%	**Airflow l/s (SCFM)**	**Sound Power dB at Frequency Hz re: 10^{-12}W**	**Lp Sound Pressure dB 20 µPa***
		dBA	**dBA**
35	1180 (2500)	65.4	54.9
50	1790 (3800)	76.9	66.8
70	2550 (5400)	85.9	75.0
85	3040 (6450)	90.6	80.7
100	3260 (6900)	91.7	81.9
*Weighted Sound Pressure dBA in a 232.2 m^3 (8,200 ft^3) room at 1.8 m (6 ft) distance.			

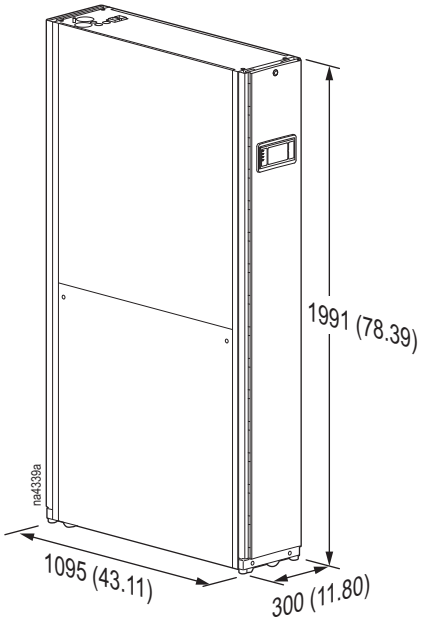
Electrical Data

Model	Power			MCA	MOP	FLA	Power kW	Power Connection
	Voltage	Phase	Frequency					
ACRC301S	100–120	1	50/60	N/A	N/A	11A	1	NEMA L5-20P
	200–240	1	50/60	N/A	N/A	11A	1	IEC-309-16A
ACRC301H	208–230	1	50/60	15A	15A	12A	1.9**	Hardwired
Dew point control pump	208–230	1	50/60	N/A	N/A	1.6A	0.025– 0.31	N/A
ACRC500*	200–240	3	50/60	11	15	N/A	3.2	NEMA L21-20P (Top-Wired Only)
ACRC501	460–480	3	50/60	7	15	N/A	3.3	Hard-wired
ACRC502*	380–415	3	50/60	7	15	6	3	IEC-309 16 A (Top-wired Only)
ACRP500	200–240	3	50/60	46.8	50	N/A	14	Hardwired
ACRP501	460–480	3	50/60	24.8	30	N/A	14	Hardwired
ACRP502	380–415	3	50/60	N/A	N/A	24**	15	Hardwired

*ACRC500 and ACRC502 have the option of being hardwired.
** Power consumption will be increased by 25 - 310 W if the optional dew point control pump is installed.
Note: Above data is based on maximum operating condition.
Note: Installation must comply with local and/or national electrical codes.
MCA—Minimum Circuit Amps
MOP—Maximum Overcurrent Protection
FLA—Full Load Amps

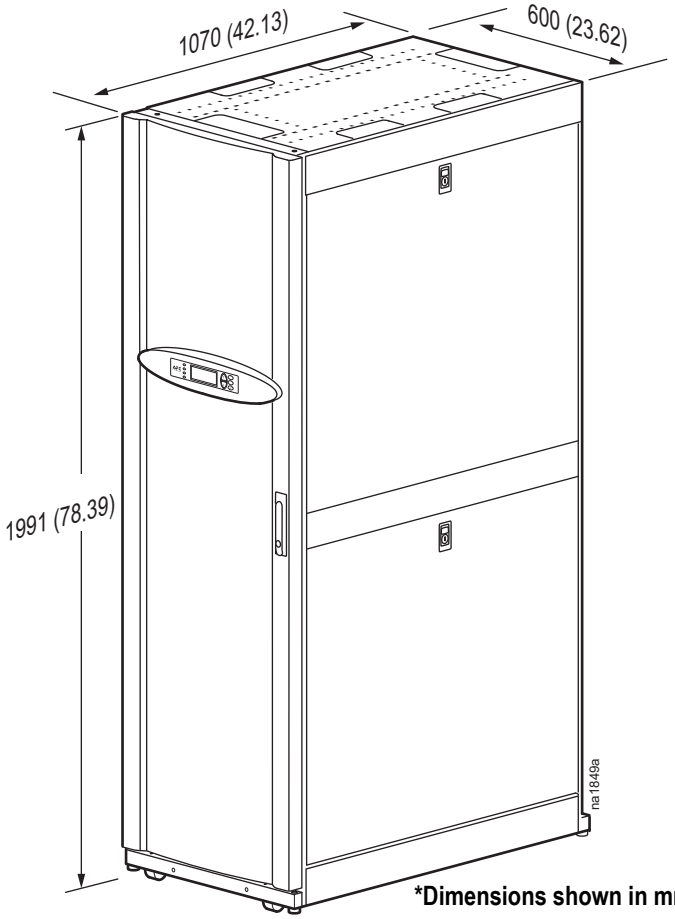
Dimensional Data

InRow ACRC301 series assembled module



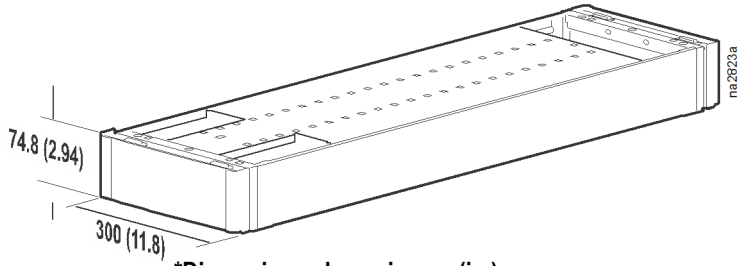
***Dimensions shown in mm (in.)**

InRow ACRC500/ACRP500 series assembled module



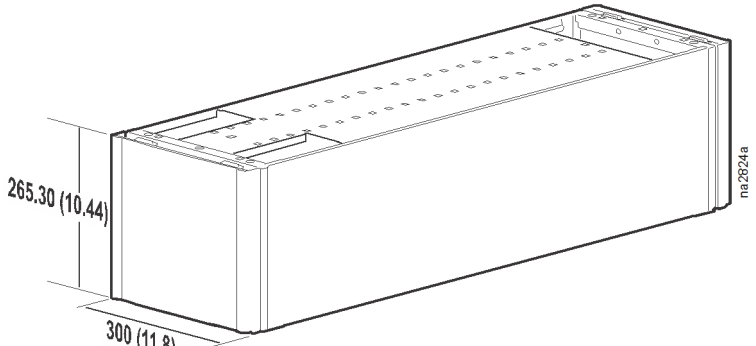
***Dimensions shown in mm (in.)**

SX to VX height adapter—ACRC301S/ACRC301H series



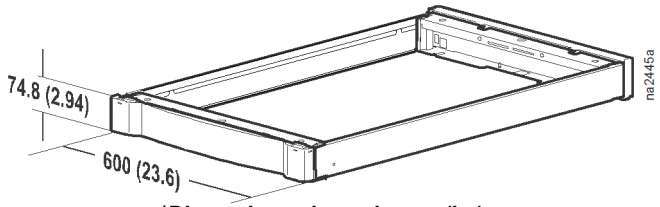
*Dimensions shown in mm (in.)

SX to 48U SX height adapter—ACRC301S/ACRC301H series



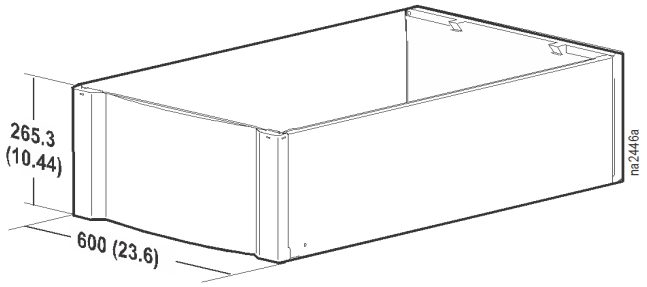
*Dimensions shown in mm (in.)

SX to VX height adapter—ACRC500/ACRP500 seriesSX to 48U SX height adapter—



*Dimensions shown in mm (in.)

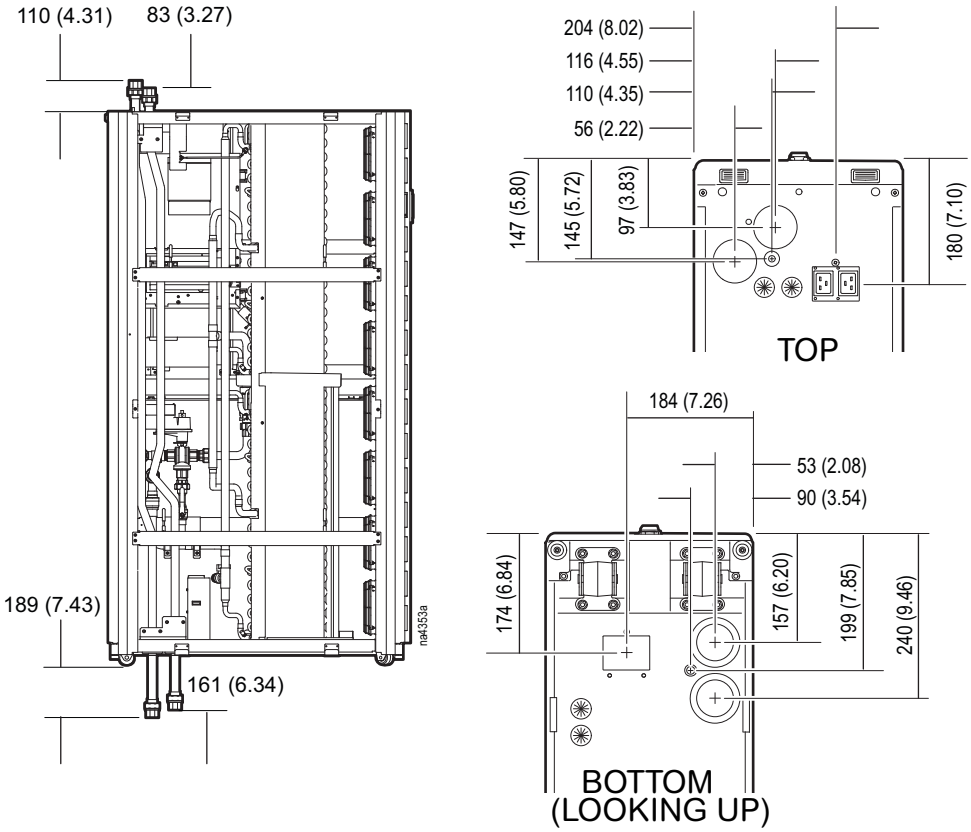
ACRC500/ACRP500 series



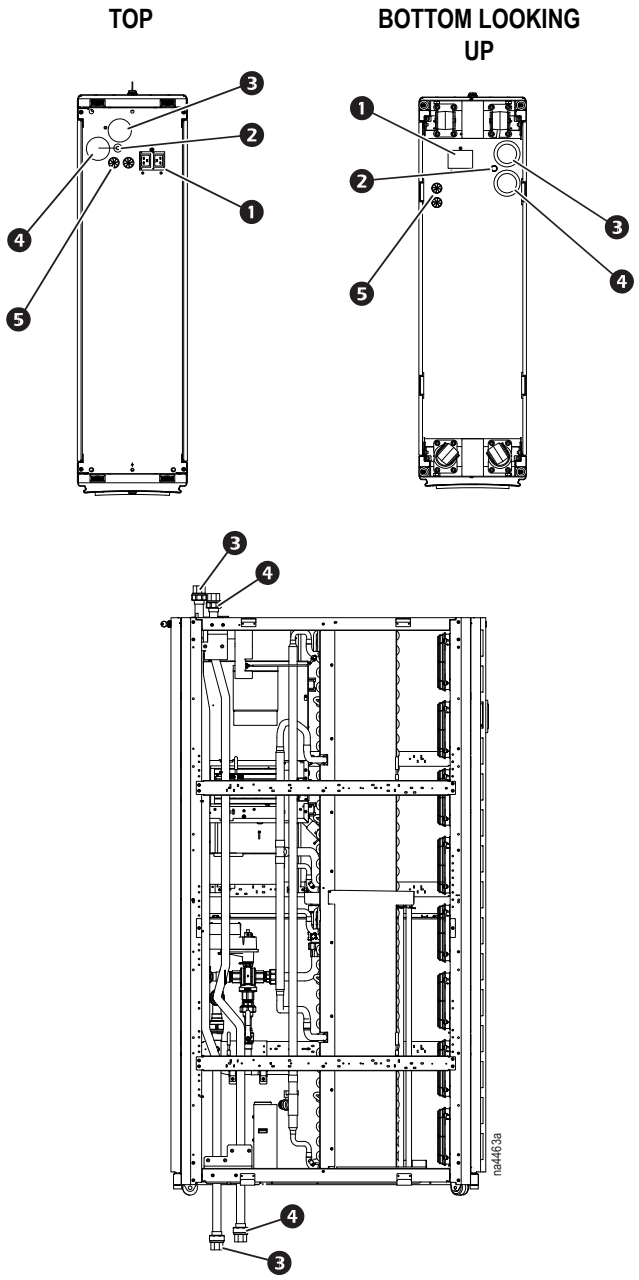
*Dimensions shown in mm (in.)

Piping Connections

Piping and electrical access - ACRC301S

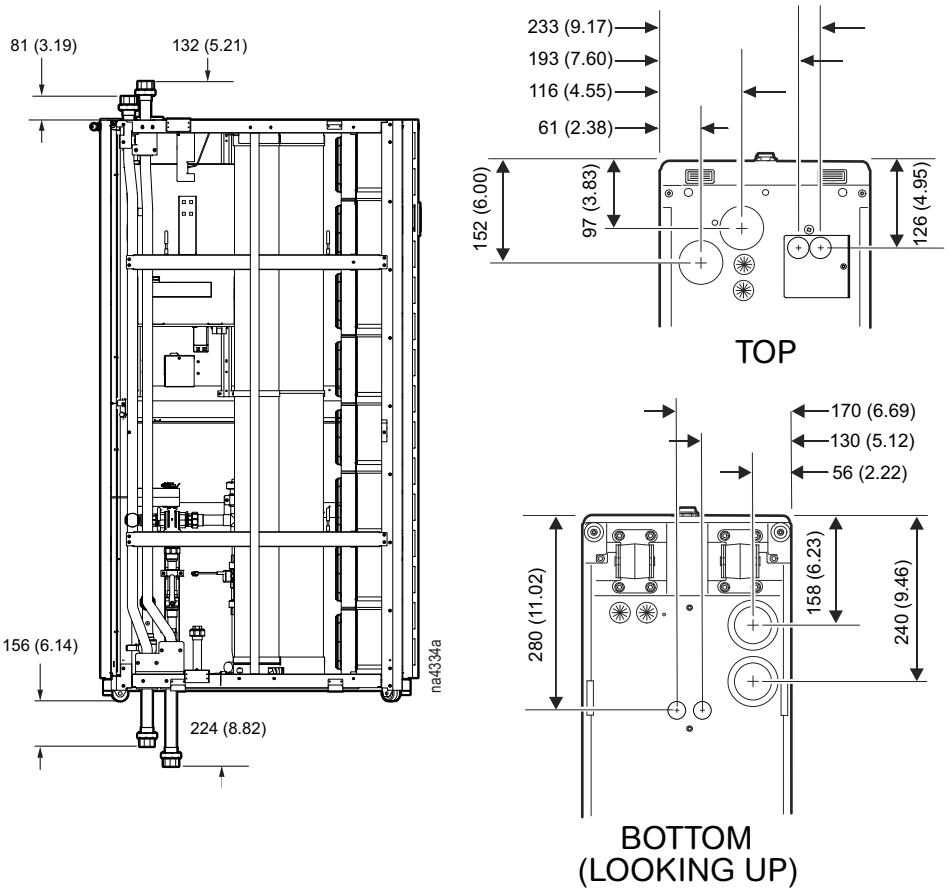


* Dimensions are shown in mm (in.).

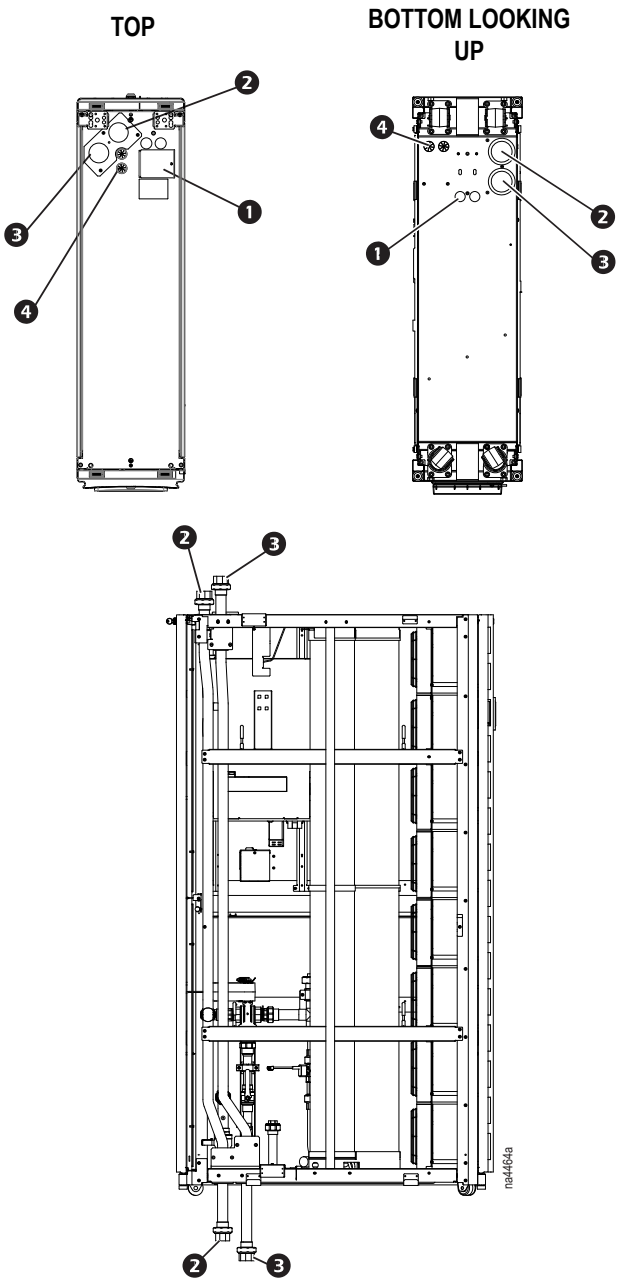


Item	Description
❶	Power connections
❷	Condensate line—0.25 in. ID/0.38 in. OD
❸	1-in. NPT female return pipe (outlet)
❹	1-in. NPT female supply pipe (inlet)
❺	Low voltage input wiring.

Piping and electrical access - ACRC301H

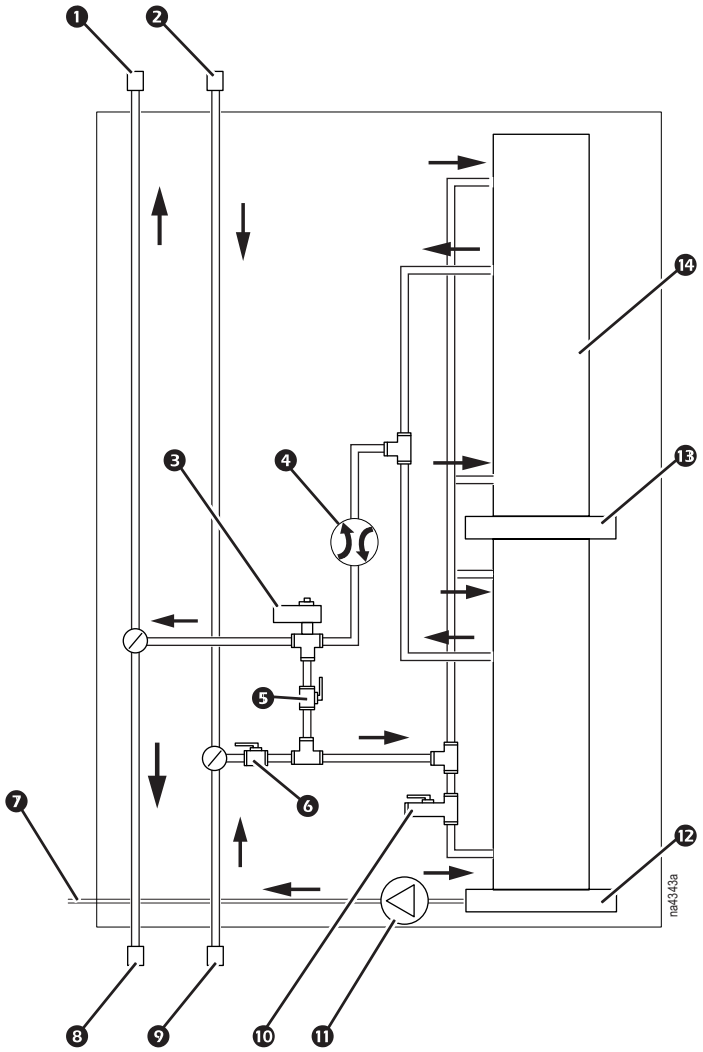


* Dimensions are shown in mm (in).



Item	Description
❶	Power connections
❷	1 1/4-in. NPT female return pipe (outlet)
❸	1 1/4-in. NPT female supply pipe (inlet)
❹	Low voltage input wiring

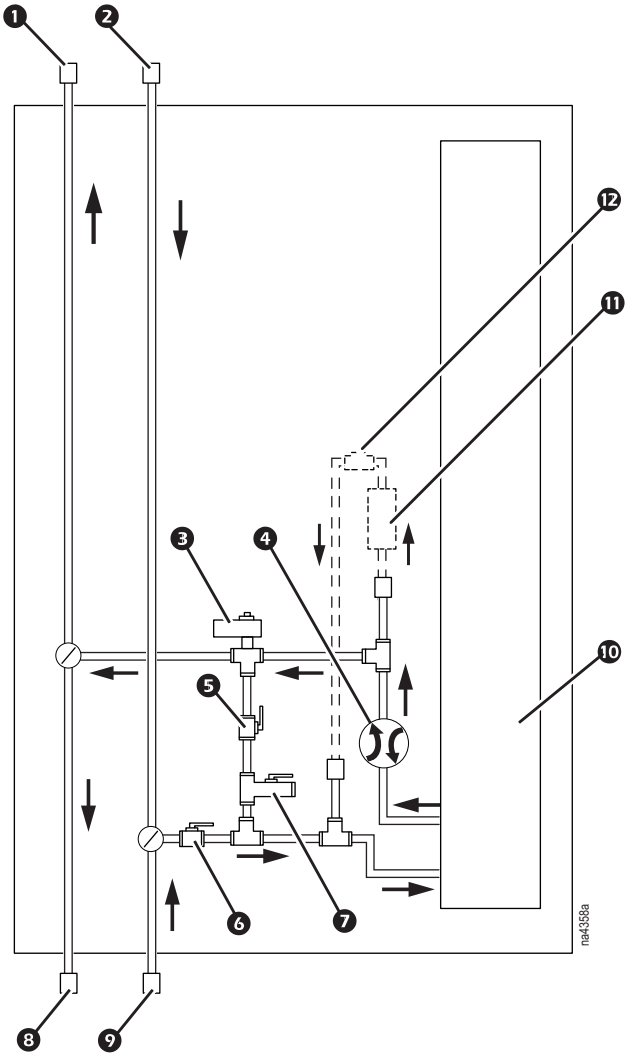
Internal piping diagram - ACRC301S



Item	Description
❶	Outlet water union (top piping option)
❷	Inlet water union (top piping option)
❸	3-way actuator control valve—1 in.
❹	Flow meter
❺	Bypass shutoff ball valve—3/4 in.
❻	Inlet shutoff valve—1 in.
❼	Condensate drain

Item	Description
❽	Outlet water union (bottom piping option)
❾	Inlet water union (bottom piping option)
❿	Drain valve
⓫	Condensate pump
⓬	Bottom condensate pan
⓭	Top condensate pan
⓮	Coil

Internal piping diagram - ACRC301H



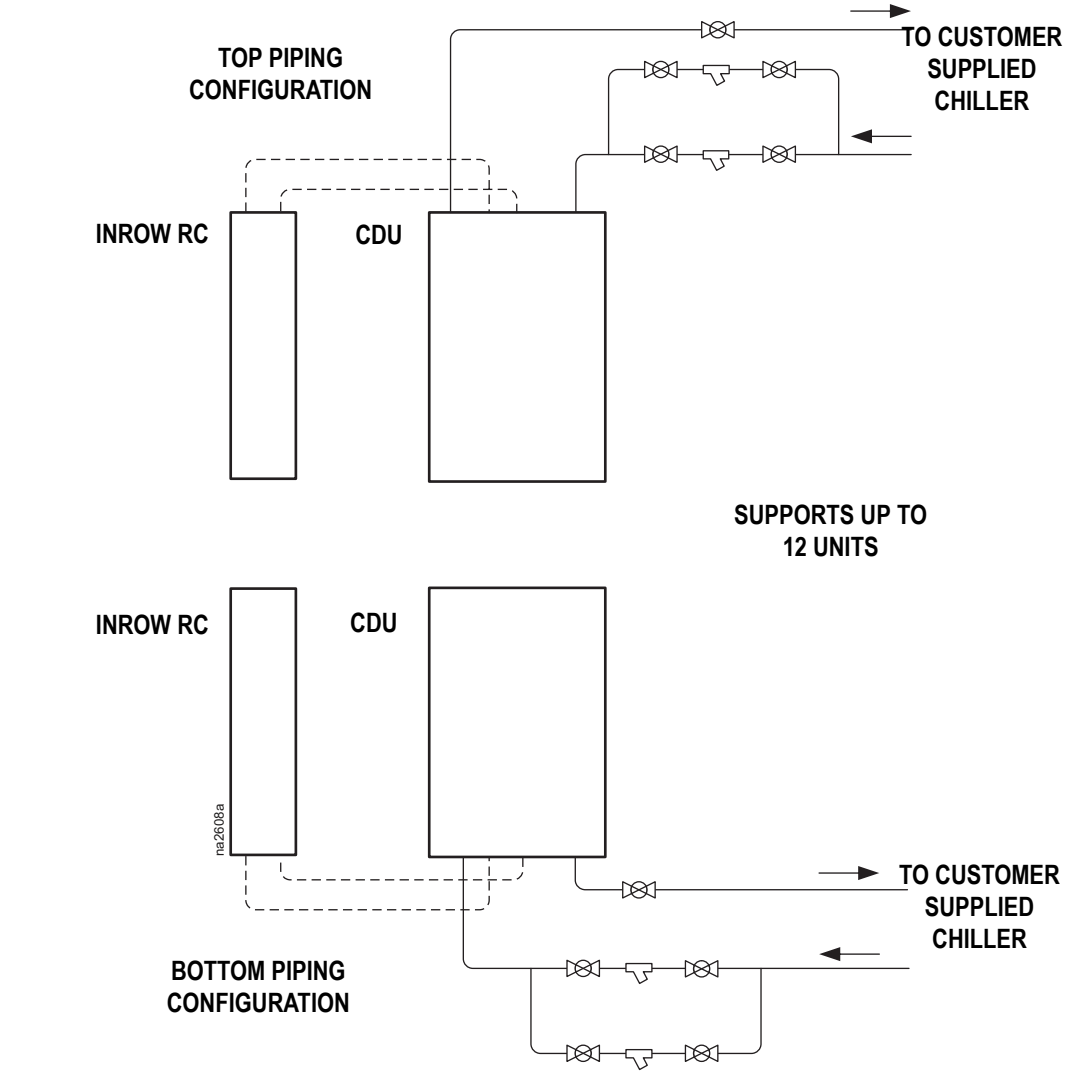
Item	Description
1	Outlet water union (top piping option)
2	Inlet water union (top piping option)
3	3-way actuator control valve—1 1/4 in.
4	Flow meter
5	Bypass shutoff valve—1 in.
6	Inlet shutoff valve—1 1/4 in.
7	Drain valve

Item	Description
8	Outlet water union (bottom piping option)
9	Inlet water union (bottom piping option)
10	Coil
11	Circulation pump (optional)
12	Circulation pump check valve (optional)

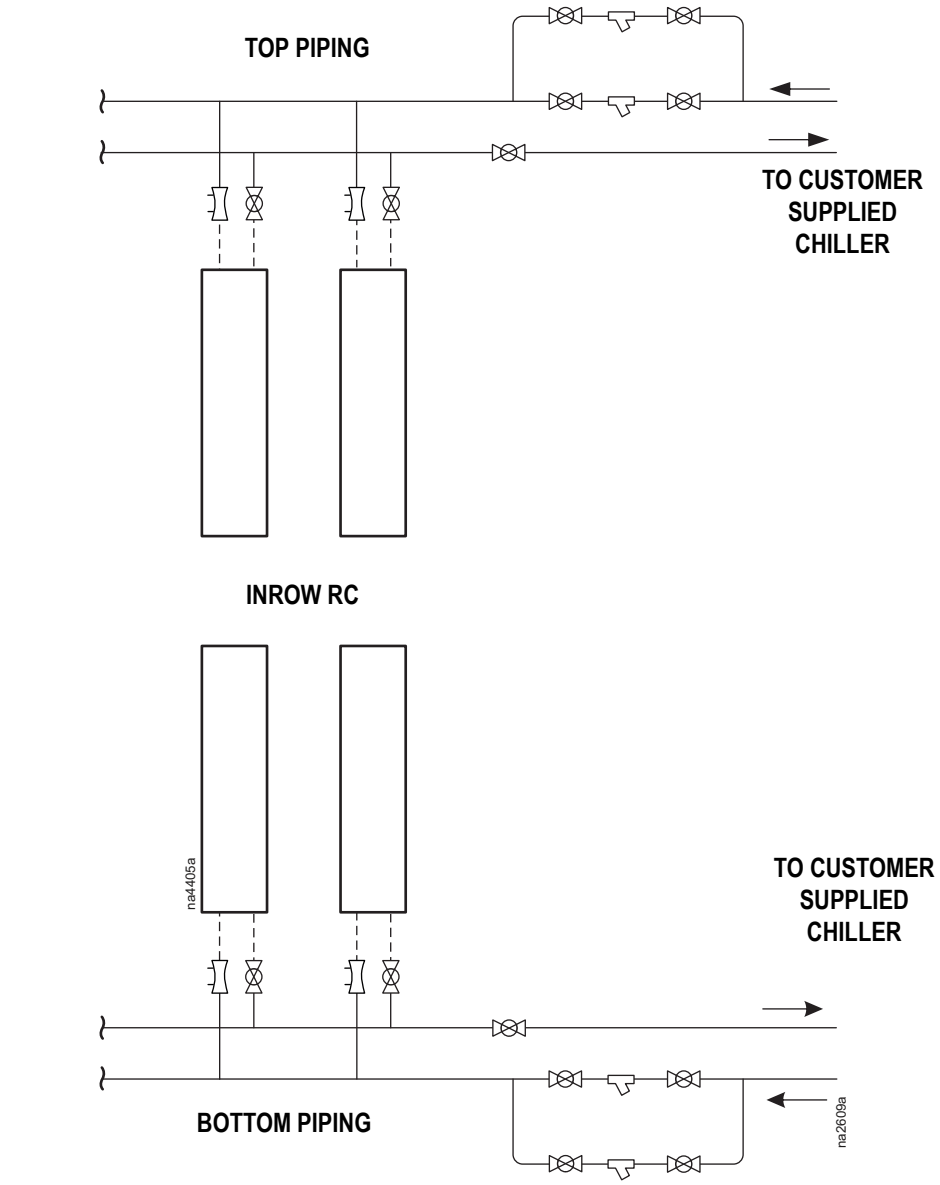
ACRC301 series

With Cooling Distribution Unit (CDU)

A CDU is only used with ACRC301S units.



Without CDU



- - - - Flex hose or copper

——— Copper tubing

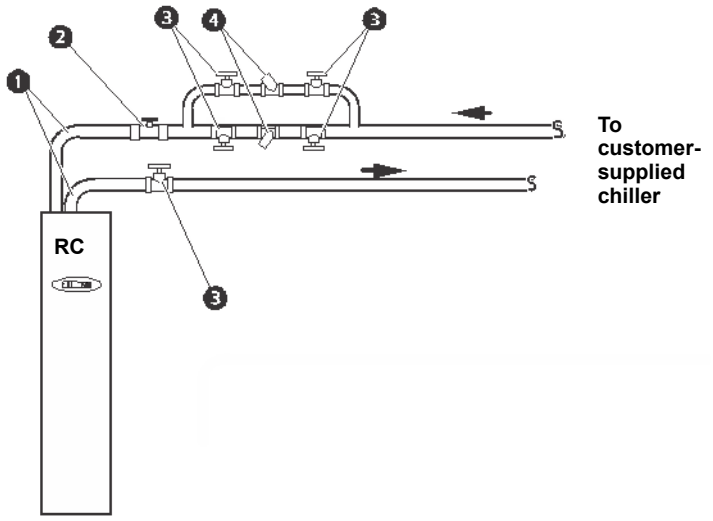
Circuit setter

Strainer with 20 mesh screen (field installed)

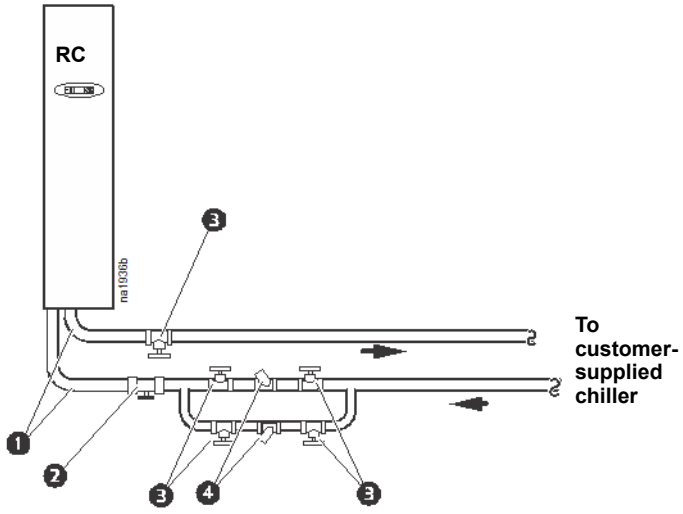
Shutoff valve (field-installed)

ACRC500/ACRP500 series

Top piping without CDU



Bottom piping without CDU

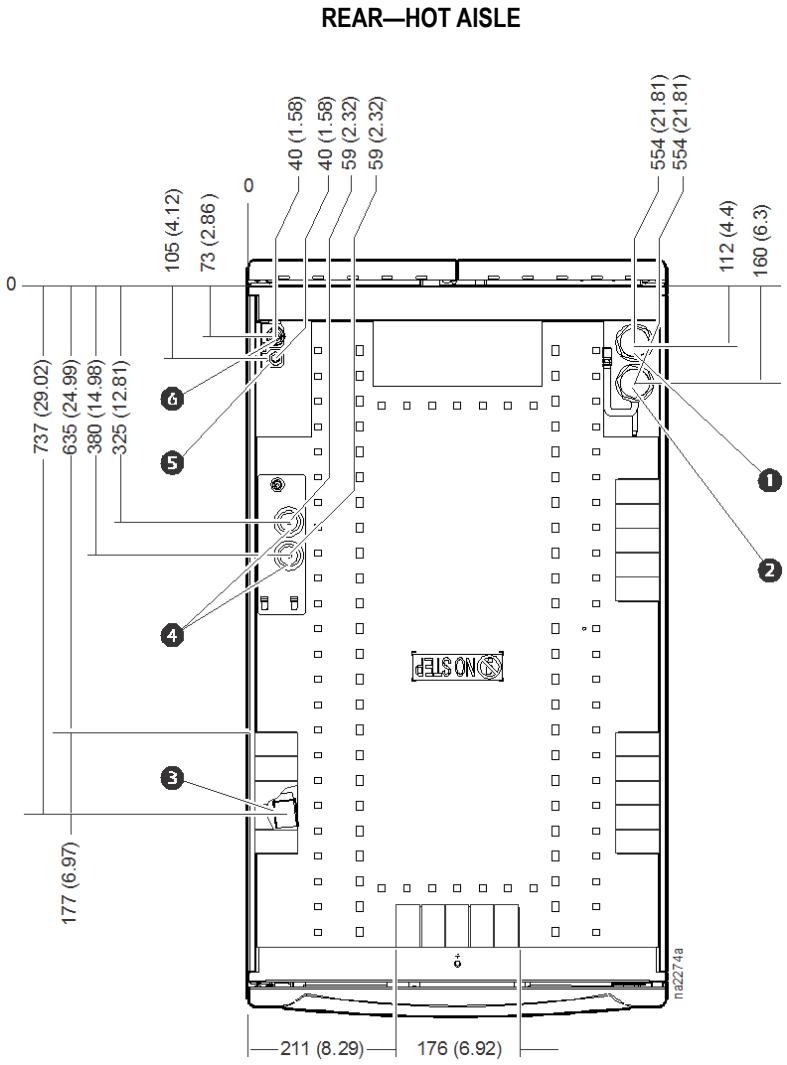


Item	Description	Item	Description
❶	Flexible piping adapters*	❸	Shutoff valve (field-installed)
❷	Balancing valve (field-installed)	❹	Y-strainer with 20-mesh screen (field-installed)**

*Recommended at these locations when the equipment is connected to rigid piping. Consult local codes for proper installation.
**A redundant strainer in the bypass line is recommended for systems with possible debris or heavy particulates during system startup and normal operation.

Top chilled water piping access (top view)

NOTE: Top or bottom entry can be chosen individually for each type of connection, i.e. power, condensate drain, humidifier water supply, chilled water supply and chilled water return. Top piping configuration will have the same valves and strainers as bottom piping configuration.

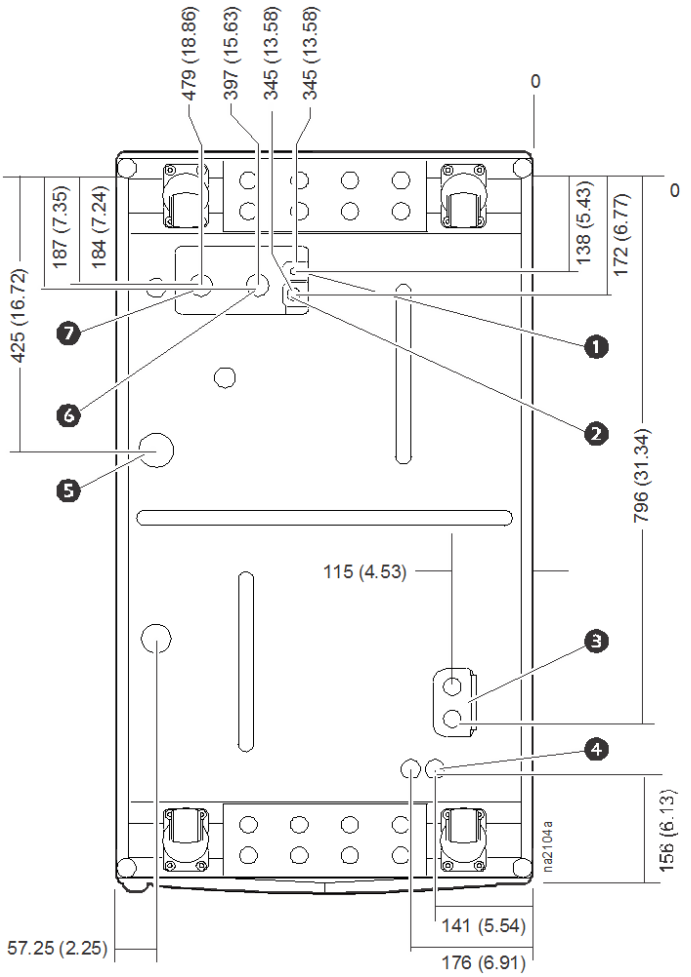


Note: Dimensions are shown in mm (in.).

Item	Description
❶	NPSM (supply/inlet) from chiller
❷	NPSM (return/outlet) to chiller
❸	Trough for communication cables
❹	Power connections—dual feed
❺	Humidifier supply (ACRP500 series only)
❻	Condensate drain

Bottom piping and power access locations (bottom view, looking up)

REAR—HOT AISLE



FRONT—COLD AISLE

Item	Description
❶	Humidifier supply (ACRP500 series only)
❷	Condensate drain
❸	Power connections—dual feed
❹	Communication connections
❺	Condensate overflow
❻	NPSM (supply/inlet) from chiller
❼	NPSM (return/outlet) to chiller

Facility Planning

Model	ACRC 301S	ACRC 301H	ACRC 500	ACRC 501	ACRC 502	ACRP 500	ACRP 501	ACRP 502
Input Voltage	100–240	208–230	200–240	460–480	380–415	200–240	460–480	380–415
Phases	1	1	3	3	3	3	3	3
Frequency	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60
Total NET Capacity – kW (BTU/hr)*	23.5 (80,000)	39.0 (133,000)	45 (154,000)	45 (154,000)	45 (154,000)	45 (154,000)	45 (154,000)	45 (154,000)
Sensible NET Capacity – kW (BTU/hr) *	23.5 (80,000)	39.0 (133,000)	43.7 (159,000)	43.7 (159,000)	43.7 (159,000	43.7 (159,000)	43.7 (159,000)	43.7 (159,000)
Chilled Water Flow Rate – GPM (l/s)*	13.8 (0.87)	25.3 (1.59)	26.4 (1.7)	26.4 (1.7)	26.4 (1.7)	26.4 (1.7)	26.4 (1.7)	26.4 (1.7)
Chilled Water Pressure Drop – kPa (ft H_2O)*	40.76 (13.7)	59.08 (19.8)	68 (22.6)	22.6 (68)	22.6 (68)	22.6 (68)	22.6 (68)	22.6 (68)
Cabinet Width – mm (in.)	300 (11.81)	300 (11.81)	600 (23.62)	600 23.62	600 23.62	600 23.62	600 23.62	600 23.62
Cabinet Depth – mm (in.)	1095 (43.11)	1095 (43.11)	1070 (42.13)	1070 (42.13)	1070 (42.13)	1070 (42.13)	1070 (42.13)	1070 (42.13)
Cabinet Height – mm (in.)	1991 (78.39)	1991 (78.39)	1991 (78.39)	1991 (78.39)	1991 (78.39)	1991 (78.39)	1991 (78.39)	1991 (78.39)
Net Weight – kg (lbs)	184 (406)	210 (463)	345 (760)	345 (760)	345 (760)	352 (776)	352 (776)	352 (776)
Operating Weight – kg (lbs)	192 (423)	220 (485)	363 (800)	363 (800)	363 (800)	370 (816)	370 (816)	370 (816)
Power Connection Type	Plug	Hardwired	Hardwired**	Hardwired	Hardwired***	Hard-wired	Hard-wired	Hard-wired
Plug Type	NEMA L5-20P/ IEC 309-16A	N/A	NEMA L21-20P	N/A	IEC 309-16A	N/A	N/A	N/A
FLA (Full Load Amps)****	11	12	N/A	N/A	6.0	N/A	N/A	24.0
MCA (Minimum Current Amps)****	N/A	15	11.0	7.0	N/A	42.0	22.0	N/A
MOP (Maximum Overvoltage Protection)****	N/A	15	15.0	15.0	N/A	40.0	20.0	N/A
Power Connection Quantity.	2	2	2	2	2	2	2	2
Features/Options								
Fan Type	EC Axial	EC Axial	BI ECM	BI ECM	BI ECM	BI ECM	BI ECM	BI ECM
Maximum Airflow – l/s (CFM)	1510 (3200)	1982 (4200)	2832 (6000)	2832 (6000)	2832 (6000)	2832 (6000)	2832 (6000)	2832 (6000)
Fan Control	Variable Speed	Variable Speed	Variable Speed	Variable Speed	Variable Speed	Variable Speed	Variable Speed	Variable Speed
Fan Quantity	8	8	3	3	3	3	3	3
Hot Swappable Fans	Yes	Yes	No	No	No	No	No	No
Hot Aisle Containment Compatible	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Rack Air Containment Compatible	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Chilled Water Control Valve	2-way / 3-way	2-way / 3-way	2-way / 3-way	2-way / 3-way	2-way / 3-way	2-way / 3-way	2-way 3-way	2-way / 3-way
Network Management Card	Included	Included	Included	Included	Included	Included	Included	Included
Standard Filter Type	1/2-in. Washable	1/2-in. Washable	4-in. Pleated	4-in. Pleated	4-in. Pleated	4-in. Pleated	4-in. Pleated	4-in. Pleated
Standard Filter Efficiency	< 20%	< 20%	30%	30%	30%	30%	30%	30%

Model	ACRC 301S	ACRC 301H	ACRC 500	ACRC 501	ACRC 502	ACRP 500	ACRP 501	ACRP 502
Optional Filter Type	2-in. Pleated	2-in. Pleated	4-in Pleated	4-in Pleated	4-in Pleated	4-in Pleated	4-in Pleated	4-in Pleated
Optional Filter Efficiency	30%	30%	85%	85%	85%	85%	85%	85%
Condensate Pump	Included	N/A	Included	Included	Included	Included	Included	Included
Humidifier Type	N/A	N/A	N/A	N/A	N/A	Steam Canister	Steam Canister	Steam Canister
Reheat Type	N/A	N/A	N/A	N/A	N/A	S/S Finned Tubular	S/S Finned Tubular	S/S Finned Tubular
Rack Inlet Temperature Sensor Quantity	1	1	3	3	3	3	3	3
Piping Connections	Top or Bottom	Top or Bottom	Top or Bottom	Top or Bottom	Top or Bottom	Top or Bottom	Top or Bottom	Top or Bottom
Electrical Connections	Top or Bottom	Top or Bottom	Top or Bottom†	Top or Bottom	Top or Bottom†	Top or Bottom	Top or Bottom	Top or Bottom
CW Flow Meter	Included	Included	Included	Included	Included	Included	Included	Included
Cable Type Water Detector	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional

*Capacity rated at the following conditions:
EFT: 50F (10C) / CW Delta T 6.6°C (12°F)—ACRC301S
EFT: 59F (15C) / CW Delta T 6.6°C (12°F)—ACRC301H
EFT: 45F (7.2C) / CW Delta T 6.6°C (12°F)—ACRC500/ACRP500 Series
**Optional: NEMA L21-20P
***Optional: NEMA IEC-309 16A
****Cells marked N/A indicate that this information is not required because of regional differences in electrical codes.
†Plug connection can only be top wired. Hardwired can be done via the top or bottom of the unit.

Warranty

Three-Phase Power Products or Cooling Solutions One-Year Factory Warranty

The limited warranty provided by Schneider Electric™ in this Statement of Limited Factory Warranty applies only to products you purchase for your commercial or industrial use in the ordinary course of your business.

Terms of warranty

Schneider Electric warrants that the product shall be free from defects in materials and workmanship for a period of one year from the date of product start-up when start-up is performed by Schneider Electric authorized service personnel and occurs within six months of the Schneider Electric shipment date. This warranty covers repairing or replacing any defective parts including on-site labor and travel. In the event that the product fails to meet the foregoing warranty criteria, the warranty covers repairing or replacing defective parts at the sole discretion of Schneider Electric for a period of one year from the shipment date. For Schneider Electric cooling solutions, this warranty does not cover circuit breaker resetting, loss of refrigerant, consumables, or preventive maintenance items. Repair or replacement of a defective product or part thereof does not extend the original warranty period. Any parts furnished under this warranty may be new or factory-remanufactured.

Non-transferable warranty

This warranty is extended to the first person, firm, association or corporation (herein referred to by “You” or “Your”) for whom the Schneider Electric product specified herein has been purchased. This warranty is not transferable or assignable without the prior written permission of Schneider Electric.

Assignment of warranties

Schneider Electric will assign you any warranties which are made by manufacturers and suppliers of components of the Schneider Electric product and which are assignable. Any such warranties are assigned “AS IS” and Schneider Electric makes no representation as to the effectiveness or extent of such warranties, assumes no responsibility for any matters which may be warranted by such manufacturers or suppliers and extends no coverage under this Warranty to such components.

Drawings and descriptions

Schneider Electric warrants for the warranty period and on the terms of the warranty set forth herein that the Schneider Electric product will substantially conform to the descriptions contained in the Schneider Electric Official Published Specifications or any of the drawings certified and agreed to by contract with Schneider Electric if applicable thereto (“Specifications”). It is understood that the specifications are not warranties of performance and not warranties of fitness for a particular purpose.

Exclusions

Schneider Electric shall not be liable under the warranty if its testing and examination disclose that the alleged defect in the product does not exist or was caused by end user or any third person’s misuse, negligence, improper installation or testing. Further, Schneider Electric shall not be liable under the warranty for unauthorized attempts to repair or modify wrong or inadequate electrical voltage or connection, inappropriate on-site operation conditions, corrosive atmosphere, repair, installation, start-up by non-Schneider Electric designated personnel, a change in location or operating use, exposure to the elements, Acts of God, fire, theft, or installation contrary to Schneider Electric recommendations or specifications or in any event if the Schneider Electric serial number has been altered, defaced, or removed, or any other cause beyond the range of the intended use.

THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, BY OPERATION OF LAW OR OTHERWISE, OF PRODUCTS SOLD, SERVICED OR FURNISHED UNDER THIS AGREEMENT OR IN CONNECTION HEREWITH. SCHNEIDER ELECTRIC DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY, SATISFACTION AND FITNESS FOR A PARTICULAR PURPOSE. SCHNEIDER ELECTRIC EXPRESS WARRANTIES WILL NOT BE ENLARGED, DIMINISHED, OR AFFECTED BY AND NO OBLIGATION OR LIABILITY WILL ARISE OUT OF, SCHNEIDER ELECTRIC RENDERING OF TECHNICAL OR OTHER ADVICE OR SERVICE IN CONNECTION WITH THE PRODUCTS. THE FOREGOING WARRANTIES AND REMEDIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES AND REMEDIES. THE WARRANTIES SET FORTH ABOVE CONSTITUTE SCHNEIDER ELECTRIC'S SOLE LIABILITY AND PURCHASER'S EXCLUSIVE REMEDY FOR ANY BREACH OF SUCH WARRANTIES. SCHNEIDER ELECTRIC WARRANTIES EXTEND ONLY TO PURCHASER AND ARE NOT EXTENDED TO ANY THIRD PARTIES.

IN NO EVENT SHALL SCHNEIDER ELECTRIC, ITS OFFICERS, DIRECTORS, AFFILIATES OR EMPLOYEES BE LIABLE FOR ANY FORM OF INDIRECT, SPECIAL, CONSEQUENTIAL OR PUNITIVE DAMAGES, ARISING OUT OF THE USE, SERVICE OR INSTALLATION, OF THE PRODUCTS, WHETHER SUCH DAMAGES ARISE IN CONTRACT OR TORT, IRRESPECTIVE OF FAULT, NEGLIGENCE OR STRICT LIABILITY OR WHETHER SCHNEIDER ELECTRIC HAS BEEN ADVISED IN ADVANCE OF THE POSSIBILITY OF SUCH DAMAGES. SPECIFICALLY, SCHNEIDER ELECTRIC IS NOT LIABLE FOR ANY COSTS, SUCH AS LOST PROFITS OR REVENUE, LOSS OF EQUIPMENT, LOSS OF USE OF EQUIPMENT, LOSS OF SOFTWARE, LOSS OF DATA, COSTS OF SUBSTITUENTS, CLAIMS BY THIRD PARTIES, OR OTHERWISE.

NO SALESMAN, EMPLOYEE OR AGENT OF SCHNEIDER ELECTRIC IS AUTHORIZED TO ADD TO OR VARY THE TERMS OF THIS WARRANTY. WARRANTY TERMS MAY BE MODIFIED, IF AT ALL, ONLY IN WRITING SIGNED BY A SCHNEIDER ELECTRIC OFFICER AND LEGAL DEPARTMENT.

Warranty claims

Customers with warranty claims issues may access the Schneider Electric customer support network through the Support page of the Schneider Electric Web site, **www.schneiderelectric.com/support**. Select your country from the country selection pull-down menu at the top of the Web page. Select the Support tab to obtain contact information for customer support in your region.

Guide Specifications

InRow RC® Chilled Water Cooling Units

100-240V/1ph/50/60Hz (ACRC301S)
208-230V/1ph/50/60Hz (ACRC301H)
200-240V/3ph/50/60Hz (ACRC500/ACRP500)
460-480V/3ph/50/60Hz (ACRC501/ACRP501)
380-415V/3ph/50/60Hz (ACRC502/ACRP502)

THIS GUIDE SPECIFICATION IS WRITTEN IN ACCORDANCE WITH THE CONSTRUCTION SPECIFICATIONS INSTITUTE (CSI) MASTERFORMAT. THIS SECTION MUST BE CAREFULLY REVIEWED AND EDITED BY THE ARCHITECT OR THE ENGINEER TO MEET THE REQUIREMENTS OF THE PROJECT.
COORDINATE THIS SECTION WITH OTHER SPECIFICATION SECTIONS IN THE PROJECT MANUAL AND WITH THE DRAWINGS. WHERE REFERENCE IS MADE THROUGHOUT THIS SECTION TO "PROVIDE", "INSTALL", "SUBMIT", ETC., IT SHALL MEAN THAT THE CONTRACTOR, SUBCONTRACTOR, OR CONTRACTOR OF LOWER TIER SHALL "PROVIDE", "INSTALL", SUBMIT", ETC., UNLESS OTHERWISE INDICATED.
THIS SECTION IS WRITTEN TO INCLUDE THE 2004 MASTERFORMAT AND THE 1995 MASTERFORMAT VERSIONS. WHERE APPLICABLE, THESE ITEMS ARE BRACKETED AND, IN EACH CASE, UNLESS OTHERWISE INDICATED, THE FIRST CHOICE APPLIES TO THE 2004 MASTERFORMAT AND THE SECOND CHOICE APPLIES TO THE 1995 MASTERFORMAT.

PART 1 — GENERAL

1.1 SUMMARY

A. The InRow product design closely couples the cooling with the IT heat load. This design prevents hot air recirculation, while improving cooling predictability and allowing for a pay as you grow environment. Available with and without humidity control, these products are designed to meet the diverse requirements for small to large data centers. Data center operators looking to improve efficiency or deploy high density servers will benefit from the modular design of the InRow Chilled Water products. The intelligent controls of the InRow Chilled Water products actively adjust fan speed and chilled water flow to match the IT heat load to maximize efficiency and address the dynamic demands of today's IT environments.

The InRow RC is available in 300-mm-wide and 600-mm-wide versions. All units automatically monitor and control cooling and filtering functions for the conditioned space. There are two 300 mm-wide units available: ACRC301S for standard entering water temperatures and ACRC301H for higher entering water temperatures. There are two 600 mm wide units available: ACRC500 series designed for sensible cooling only and ACRP500 series designed specifically for precision temperature and humidity control applications. The ACRP500 series will automatically monitor and control heating, cooling, humidifying, dehumidifying, and filtering functions for the conditioned space.

The systems shall be built to the highest quality engineering and manufacturing standards and shall be floor mounted and configured for horizontal airflow, with draw-through air pattern, to provide uniform air distribution over the entire face of the coil.

1.2 DESIGN REQUIREMENTS

A. The system shall be as described in the following specification as manufactured by Schneider Electric.

1. Model: _____.
2. Total net cooling capacity: _____ MBH (kW).
3. Sensible net cooling capacity: _____ MBH (kW).
4. Return air temperature: _____ ºC (ºF) DB.
5. Return air temperature: _____ ºC (ºF) WB.
6. Entering chilled water temperature:_____ºC (ºF) WB.
7. Humidity: _____% RH.
8. Air quantity: _____ L/s (CFM).
9. External Static Pressure:_____Pa (in.).
10. Reheat capacity:_____kW (MBH).
11. Humidifier capacity: _____ _____ kg/hr (lbs/hr) (ACRP500 series only).
12. Electrical supply: _____ _____V, _____ ph, 50/60 Hz.

1.3 SUBMITTALS

A. Submittals are provided with the proposal and shall include: capacity data, electrical data, physical data, electrical connection drawing, and piping connection drawing.

1.4 QUALITY ASSURANCE

A. The system shall be completely factory-tested prior to shipment. Testing shall include, but not be limited to the following: complete pressure and leak testing to ensure system integrity, “Hi-Pot” test, and controls calibration and settings. Each system shall ship with a completed test report to verify completion of factory testing procedure. The system shall be NTRL listed, MCA, and UL Listed to UL 1995 and CSA 22.2 No. 236.

1.5 WARRANTY

A. System parts shall be warranted for a period of 18 months from date of shipment and 12 months from startup. Optional extended warranties are available.

PART 2 — PRODUCT

2.1 STANDARD COMPONENTS

A. CABINET CONSTRUCTION

1. Exterior panels shall be 18 gauge steel with 5 lb/ft^3 (80 kg/m^3) density foam insulation. Insulation complies with UL94 HF-1. Front and rear exterior panels shall be 18 gauge perforated steel with 80% open free area, and equipped with a keyed lock to provide a means of securing access to the internal components of the unit.
2. The frame shall be constructed of 16 gauge formed steel welded for maximum strength. All units shall provide maintenance from the front and rear, allowing units to be placed within a row of racks.
3. All exterior panels and frame shall be powder coated for durability and attractive finish. Exterior frame and panel color shall have color values: L = 74.50, a = -.53, b = +8.20.
4. Units shall include casters and leveling feet to allow ease of installation in the row and provide a means to level the equipment with adjacent IT racks.

B. VARIABLE SPEED FAN ASSEMBLY

1. ACRC301S/ACRC301H fans
   a. The unit shall be configured for draw-through air pattern to provide uniform air flow over the entire face of the coil. Each unit shall include eight 200-mm mixed flow direct drive DC axial fans. Each fan assembly should be designed to provide 188.8 l/s (400 CFM) for total unit airflow of 1510.2 l/s (3200 CFM) for ACRC301S. Each fan assembly should be designed to provide 247.8 l/s (525 CFM) for total unit airflow of 1982.1 l/s (4200 CFM) for ACRC301H.
2. ACRC500/ACRP500 series fans
   a. The unit shall be configured for draw-through air pattern to provide uniform air flow over the entire face of the coil. The unit is equipped with variable speed, electrically commutated, 400-mm, backward incline fans complete with Inlet Volute. Each fan assembly should be designed to provide 1085.6 l/s (2300 CFM) for total unit airflow of 3256.8 l/s (6900 CFM) without filters. Total CFM with standard filter is 2832 l/s (6000 CFM).
3. Variable Speed Fans
   a. Fans shall be variable speed capable of modulating from 30-100%. For ACRC500/ACRP500 series units, fans shall soft start to minimize in-rush current when starting.
4. Fan Protection
   a. Each fan assembly of ACRC301S and ACRC500/ACRP500 series shall consist of a plastic injection molded bezel with integral fan discharge finger guard. Each fan of ACRC301H assembly shall consist of a fan duct with integral fan discharge finger guard. Inlet of all fans shall include a cage type finger guard.
5. Operation and Service
   a. The unit should be capable of operation in the event of a fan failure. ACRC301H units feature a handlebar on the front housing to provide an easy grip in the event of replacement.
6. Passive Noise Control (ACRC301H only)
   a. Each fan assembly features a housing with foam lining to provide passive noise control.

C. AUTOMATIC TRANSFER SWITCH

1. The unit shall be equipped with an automatic transfer switch (ATS). The ATS shall automatically switch from a main power supply to a secondary power supply in the event of a power outage without change in equipment operation. The ATS shall monitor the main power supply so that when power is restored to the primary source it will automatically switch from the secondary source back to the main power source.

D. MAIN DISCONNECT SWITCH

1. ACRC301S & ACRC301H
   a. Unit shall be provided with fuse rated per UL 248-1/UL 248-14/CSA-C22.2 No. 248.1/CSA-C22.2 No. 248.14
      1. ACRC301S: 120-240V 50/60Hz kA 100
      2. ACRC301H: 208-230V 50/60Hz kA 100
   b. Units shall include a fused live and neutral lines located on the ATS panel in order to individually disconnect primary/secondary power inputs
2. ACRC500/ACRP500 series
   a. Unit shall be provided with Thermal-Magnetic circuit breakers with interrupt capacity ratings per UL489/CSA C22.2/IEC-947.
      1. Voltage: 200-240V 50/60Hz / kAIC 50
      2. Voltage: 380-415V 50Hz / kAIC 36
      3. Voltage: 460-480V 60Hz / kAIC 22
   b. Units shall include main disconnect switches located on the E-panel in order to individually disconnect primary/secondary power inputs.

E. DUAL POWER SUPPLIES

1. Power Supplies
   a. The unit shall include two power supplies,
      1. ACRC301S: Each capable of running the unit at 75% capacity in the event of a single power supply failure,
      2. ACRC301H: Each capable of running the unit at 75% capacity in the event of a single power supply failure.
2. Unit power consumption
   a. ACRC301S
      1. Power consumption is not to exceed 1.0 kW during normal operation.
   b. ACRC301H
      1. Power consumption is not to exceed 1.9 kW during normal operation.
   c. ACRC500 series
      1. Power consumptions is not to exceed 3.3 kW during normal operation.
   d. ACRP500 series
      1. Power consumptions is not to exceed 15 kW during normal operation.
3. Operation and Service
   a. Power supply shall be hot swappable.

F. PRIMARY/SECONDARY POWER INPUT

1. Input Power Feeds
   a. Primary/secondary power inputs should be a locking NEMA or IEC plug (ACRC301S, ACRC500, and ACRC502) or hardwired connection (ACRC301H, ACRC500 series, and ACRP500 series) suitable for the input power selected.
   b. Each power input shall be capable of running the unit at 100% capacity in the event of a main power failure.

G. MICROPROCESSOR CONTROLLER

1. Monitoring and Configuration:
   a. The master display shall allow monitoring and configuration of the cooling unit through a touch screen control. Functions include status reporting, set-up, and temperature set points. Three LEDs report the operational status of the connected air conditioning unit. For ACRC500 & ACRP500, four LEDs report the operational status of the connected air conditioning unit.
2. Controls
   a. The microprocessor controller shall allow the user to navigate between menus, select items, and input alphanumeric information
3. Alarms
   a.The microprocessor controller shall activate a visible and audible alarm in the occurrence of the following events:
      1. Cooling Failure
      2. Rack inlet high temperature
      3. Rack inlet temperature sensor fault
      4. Air filter clogged
      5. Air filter run hours exceeded
      6. Filter DP sensor failure
      7. Supply air sensor fault
      8. Return air sensor fault
      9. Supply air high temperature
      10. Return air high temperature
      11. Fan fault
      12. Water detection fault
      13. Check Condensate Management System
      14. Input contact fault
      15. Internal Communications Fault
      16. Coil Fluid Valve Actuator Fault
      17. Fluid Flow Meter Communication Fault
      18. Entering Fluid High Temperature
      19. Entering Fluid Temperature Sensor Fault
      20. Leaving Fluid Temperature Sensor Fault
      21. Condensate Pan Full Alarm (ACRC301S series only)
      22. Power Feed Failure

23. Fan Power Supply Fault (ACRC301 series only)
24. Fan run hours exceeded (ACRC500/ACRP500 series only)
25. Condensate run hours exceeded (ACRC500/ACRP500 series only)
26. Humidifier water conductivity high violation (ACRP500 series only)
27. Humidifier fault tolerance exceeded (ACRP500 series only)
28. Humidifier low water (ACRP500 series only)
29. Humidifier excessive output reduction (ACRP500 series only)
30. Humidifier drain fault (ACRP500 series only)
31. Humidifier cylinder full (ACRP500 series only)
32. Humidifier replace cylinder (ACRP500 series only)
33. Humidifier RS485 communication fault (ACRP500 series only)
34. Humidity high/low violation (ACRC500/ACRP500 series only)
35. Supply humidity sensor fault (ACRC500/ACRP500 series only)
36. Return humidity sensor fault (ACRP500 series only)
37. Heater fault (ACRP500 series only)
38. Heater run hours exceeded (ACRP500 series only)
39. Group communication fault (ACRC500/ACRP500 series only)
40. Invalid supply setpoint (ACRC500/ACRP500 series only)
41. Link Isolation Relay Fault (ACRC500/ACRP500 series only)

4. Logging
   a. The microprocessor controller shall log and display all available events. Each alarm log shall contain a time/date stamp. Controller shall display the run-time hours for major components.

H. NETWORK MANAGEMENT CARD

1. The unit shall include a network management card to provide management through a computer network through TCP/IP. Management through the network should include the ability to change set points as well as view and clear alarms.

I. COOLING COIL

1. ACRC301S
   a. The cooling coil shall use a raised lance type aluminum fin and 9.5-mm (3/8-in. OD) copper tube coils. Coil end supports shall be a minimum 18 gauge galvanized steel. Coil shall be rated for a maximum pressure of 2070 kPa (300 psig). The coil is configured in a counterflow arrangement to enhance heat transfer efficiency.
2. ACRC301H
   a. The cooling coil shall use a corrugated type horizontal aluminum fin and 9.5-mm (3/8-in. OD) vertical copper tube coils. Fin shall be a minimum of 0.0055-in. thick. Tube wall shall be a minimum of 0.016-in. thick. Coil tube sheets shall be a minimum 18 gauge G90 galvanized steel. The coil shall be rated for a maximum pressure of 2070 kPa (300 psig). The coil is configured in a counterflow arrangement to enhance heat transfer efficiency
3. ACRC500/ACRP500 series
   a. The cooling coil shall use a raised lance type corrugated aluminum fin and 12.7-mm (1/2-in.) OD copper tube coils. Fin shall be a minimum of 0.0055-in. thick. Tube wall shall be a

minimum of 0.016-in. thick. Coil tube sheets shall be a minimum 18 gauge G90 galvanized steel. The coil shall be rated for a maximum pressure of 2757.9 kPa (400 psig). Coil headers are equipped with drip plates in the bottom to route the condensate accumulating on the header tubes to the condensation pan. The coil is configured in a counterflow arrangement to optimize heat transfer efficiency

4. Cooling Fluids
   a. Chilled water and solutions of propylene or ethylene glycol up to 50% may be used. Solutions of brine or other aqueous salt are NOT permitted.
5. Freeze Protection
   a. Per ASHRAE Handbook Fundamentals 2001 21.5, a maximum of 30% ethylene glycol and 35% propylene glycol are needed for freeze protection. Consult the ASHRAE handbook for more details.

J. 2-/3-WAY MODULATING VALVE

1. ACRC301S/ACRC301H
   a. A proportional valve shall be microprocessor controlled to automatically direct the proper amount of chilled water in the cooling coil to maintain desired conditions. A shut-off valve located in the bypass line may be manually adjusted for 2-way flow if so desired.
   b. Three-way control valve shall be rated for 360 psig with a brass body and nickel/chromium-plated brass ball.
   c. Valve Actuator: Actuator shall be a direct connect rotary proportional actuator with analog signal feedback, and should be capable of being replaced without disconnecting piping from the valve. Ability for manual operation is also provided (ACRC301S only). A spring return mechanism is attached to the actuator for the ACRC301H unit.
2. ACRC500/ACRP500
   a. A floating point valve shall be microprocessor controlled to automatically direct the proper amount of chilled water in the cooling coil to maintain desired conditions. A shut-off valve located in the bypass line may be manually adjusted for 2-way flow if so desired.
   b. Three-way control valve shall be rated for 300 WOG with brass body and stainless steel ball.
   c. Valve Actuator: Actuator shall be direct connect rotary floating point style actuator with potentiometer feedback, and should be capable of being replaced without disconnecting piping from the valve. Ability for manual operation is also provided.

K. CONDENSATE PAN (excluding ACRC301H)

1. The unit shall consist of a primary and secondary drain pan. The secondary drain pan shall be piped to the primary pan for removal of condensate. The primary drain pan shall include a condensate pump and dual floats for control and overflow protection.

L. CONDENSATE PUMP

1. ACRC301S
   a. The factory-installed condensate pump is piped internally to the condensate pan. It is capable of pumping 5 L/h (1.3 GPH) liquid a maximum distance of 15.2 m (50 ft), which may include

a maximum lift of 4.9 m (16 ft). Dual floats are included with the unit. One float is used for condensate pump control; the other is to generate condensate pan overflow alarms.

2. ACRC500/ACRP500 Series
   a. The factory-installed condensate pump is piped internally to the condensate pan. It is capable of pumping 31.8 l/h (8.45 GPH) liquid a maximum distance of 18 m (60 ft), which may include a maximum lift of 3.5 m (11.5 ft). Dual floats are included with the unit. One float is used for condensate pump control, the other to generate condensate pan overflow alarms.

M. DEW POINT CONTROL PUMP (ACRC301H ONLY)

1. The dew point control pump is piped internally to the cooling unit and recirculated water into the coil to elevate the coil temperature above the dew point.
2. The maximum pump pressure is 16 bar (232 psig).
3. Variable speed pump shall be capable of modulating from 30-100%.
4. Pump kit is optional and installed separately.

N. FILTERS

1. ACRC301S/ACRC301H
   a. The standard air filter shall be <20% efficient per ASHRAE 52.1, MERV 1 per ASHRAE 52.2, 1/2-in. washable mesh filter.
   b. The optional air filter shall be high capacity 2-in. pleated, UL 900 Class 2, Moisture with average atmospheric dust spot efficiency of 30% per AHRAE Standard 52.1, MERV 8 per ASHRAE 52.2.
2. ACRC500/ACRP500 Series
   a. The standard filters shall be 30% efficient per ASHRAE Standard 52.1, UL Class 2 (MERV 8 per ASHRAE 52.2). Filters shall be EN779 G4 efficient. The 96-mm (3.75-in.) deep, pleated filters shall be replaceable from the rear of the unit.
   b. The optional filter shall be 85% efficient per ASHRAE Standard 52.1 (MERV 13 per ASHRAE 52.2, EN779 F7).

O. HUMIDIFIER (ACRP500 series only)

1. Humidifier shall be able to modulate capacity. The humidifier shall be self-contained, steam-generating type, factory piped and wired, with disposable cylinder and automatic solid-state control circuit. Humidifier canisters shall be replaceable. The humidifier controller shall communicate directly to the microprocessor controller and provide complete status and control at the operator interface. Humidifier shall control flush cycling and conductivity via automated controls. Humidifier shall be capable of producing up to 6.6 lb (3 kg) of steam per hour.

P. ELECTRIC REHEAT (ACRP500 series only)

1. Reheat elements shall be low watt density, wired for three-phase, loaded equally on all three phases and shall be electrically and thermally protected by both automatic and manual reset cutouts. Reheat capacity shall be 9 kW.
2. Reheat coils shall be stainless steel, fin tubular construction. Heater casing shall be 20-gauge G90 galvanized steel.

3. Heaters shall be provided with self-engaging electrical connectors upon installation. Heaters with manually connected conductors are not acceptable.

Q. TEMPERATURE AND HUMIDITY SENSORS

1. ACRC301S/ACRC301H
   a. Internal Sensors
      1. Internal Temperature Sensors: Thermister temperature sensors shall be mounted behind the front and rear doors to provide control inputs based on supply and return air temperature. Sensor accuracy shall be within +/- 2ºF accuracy.
      2. Internal Humidity Sensors: Humidity sensors shall be mounted behind the rear door (ACRC301H only).
   b. Remote Temperature Sensors
      1. One remote temperature sensor shall be shipped with the unit for placement in the field to provide control input based on rack inlet temperature.
2. ACRC500/ACRP500 series
   a. Internal Sensors
      1. Internal Temperature Sensors: Thermister temperature sensors shall be mounted behind the front and rear doors to provide control inputs based on supply and return air temperature. Sensor accuracy shall be within +/- 1ºF accuracy.
      2. Internal Humidity Sensors: Humidity sensors shall be mounted behind both the front and rear doors and shall provide control input based on humidity in supply air. Humidifier sensor shall be +/- 3% RH accuracy full scale.
   b. Remote Temperature Sensors
      1. Three remote rack inlet temperature sensors shall be shipped with the unit for placement in the field to provide control input based on rack inlet temperature.
3. Water Temperature Sensors: Internal supply and return chilled water temperature sensors shall be installed into sealed wells. Wells are filled with thermal conducting heat transfer grease to provide accurate temperature sensors.

R. SELECTABLE TOP OR BOTTOM PIPING

1. ACRC301S/ACRC301H
   a. Bottom piping connections are standard from factory. Unit can be field modified for optional top piping. Unit connections shall be made internal to the unit.
2. ACRC500/ACRP500 series
   a. Pipe connections for field connection from either the top or bottom of the unit. Unit connections shall be made internal to the unit.
   b. The unit shall include two pipe adapters that convert a 38.1 mm (1 1/2 in.) NPT to a 38.1 mm (1 1/2 in.) BSPT (manufactured in accordance with BS21). Pipe adapters shall ship loose with the unit for field installation where applicable.

S. FLOW METER

1. The flow meter shall be factory piped inside the unit and connected to microprocessor controls to provide water flow rate through the unit. The microprocessor controller shall also use this information to provide total unit capacity out of the unit while in operation.
2. The flow meter shall be a glass filled nylon construction vortex-sensing meter, compatible with glycol/water solutions up to 50% with accuracy of 2.5% FS @ 10–200 LPM (2.6–53 GPM).

T. PIPING

1. The unit shall be piped in accordance with the highest commercial quality procedures. The chilled water piping shall be insulated with closed cell elastomer insulation. All piping connections should be made at the rear of the unit for top or bottom accessibility.

U. CONFIGURATIONS

1. Cool setpoints for the ACRC500/ACRP500 series units shall range from 5.6ºC - 16.7ºC (42.1ºF - 62.1ºF).
2. Cool setpoints for the ACRC301S/ACRC301H units shall range from 5.6ºC - 22.2ºC (42.1ºF - 72ºF).
3. Identical cooling units can be grouped up to 12 units total.
4. Four configuration types are available: InRow mode, HACS mode, RACS mode, and CACS mode (ARCRC301 series only).

V. CABLE WATER DETECTOR (OPTIONAL)

1. A leak detection sensing cable shall be shipped loose with the unit. If water or other conductive liquids contact the cable anywhere along its length, the main controller visually and audibly annunciates the leak.
2. The detector shall be provided with 6.1 m (20 ft) of cable. Cable may be cascaded up to 24.4 m (80 ft).

W. BRIDGE POWER CABLE TROUGH

1. An overhead power distribution bridge, that sits between adjacent NetShelter racks and allows for removal of the unit without disrupting the overhead power cabling, is available as an accessory.
2. The cable trough shall be constructed of 16 gauge cold rolled steel with a black powder coat finish.

X. BRIDGE DATA PARTITION

1. An overhead cable distribution bridge, that sits between adjacent NetShelter racks and allows for removal of the unit without disrupting overhead cabling, is available as an accessory.
2. The data partition shall be constructed of 16 gauge cold rolled steel with a black powder coat finish.

Y. COMPATIBLE PRODUCTS

1. The InRow Chilled Water units shall be compatible with Hot Aisle Containment, Rack Air Containment, and Active Flow Controller.
2. The ACRC301S and ACRC301H units shall be compatible with Cold Aisle Containment.

PART 3 — EXECUTION

3.1 GUIDELINES FOR INSTALLATION

A. GENERAL

1. The InRow RC provides reliable, accurate temperature control of computer rooms, laboratories, and other environments that require close tolerance control. The unit incorporates the latest system design innovations to provide you with optimum efficiency, reliability, and accuracy of control.
2. The InRow RC unit will provide years of trouble-free service, when installed and maintained by technically qualified personnel. For more detailed information, see the InRow RC Installation Manual, 990-4705.

B. ROOM PREPARATION

1. During the design of the room, consideration should be given to the following factors:
   a. Ease of entry for the system, floor-loading factors, and accessibility of piping and wiring.
   b. The room must be sealed with a vapor barrier to minimize migration of moisture.
   c. Polyethylene film (plastic sheeting) is a good vapor barrier for ceiling and wall applications.
   d. Rubber-based or plastic-based paints should be applied to concrete floors and walls.
   e. The room should be thoroughly insulated to minimize thermal loads and make-up air (if required) should be preconditioned to reduce additional temperature, filtration, and moisture loads.

C. SERVICE ACCESS

1. At least 914.4 mm (36 in.) of clear space must be left in front of and behind the unit for routine service. In order to service the unit outside of the row, an area of 1219.2 mm (48 in.) of clear space is required in front of and behind the unit while it is in the row.

D. RECEIVING THE UNIT

1. Your InRow RC unit has been completely tested and inspected before shipment. To ensure that you have received the unit in excellent condition, perform a careful inspection of the crating and the unit immediately upon receipt.
2. Verify that all parts ordered were received as specified and that the unit is the correct size and voltage necessary to fulfill your environmental control needs.
3. Report any damage discovered to the freight carrier.
4. If necessary, contact the Schneider Electric field service department for help in repairing or replacing damaged parts. While Schneider Electric is not responsible for damage incurred in transit, we want to make sure that you have no undue delays in your system start-up.

E. RIGGING

1. The unit is manufactured with a formed steel frame for maximum strength and unit integrity. However, as with all electrical and mechanical equipment, you must take care with proper rigging of your unit.

2. When using a forklift to move the unit, use the shipping skid to protect the bottom of the unit. When using chains, cables, or rope to lift the unit, use spreader bars to prevent damage to the finished panels. Four threaded M10x16 holes are provided to accommodate lifting eye bolts that can be utilized to lift the unit.
3. Exercise caution when maneuvering and transporting the cooling unit as it can tip easily.

F. CONDENSATE DRAIN ROUTING

1. ACRC301S series: Condensate from the evaporator pan is collected and discharged by the condensate pump to a 5-mm (0.188 in.-ID) condensate line supplied with the unit.
2. ACRC500 series: Condensate from the evaporator pan is collected and discharged by the condensate pump to a 9.5-mm (0.375-in. ID) condensate line supplied with the unit. Additional condensate piping is required to route the condensate line to the building.

3.2 FIELD QUALITY CONTROL

A. APPLICATION OF GUIDE SPECIFICATIONS

1. Because of an ongoing program dedicated to product improvement, specifications are subject to revisions without notice. Schneider Electric assumes no responsibility, and disclaims all liability for damages resulting from use of this information or for any errors or omissions.

Worldwide Customer Support

Customer support is available at no charge via e-mail or telephone. Contact information is available at **www.schneiderelectric.com/**. Select **Support > Operations around the world**.

© Schneider Electric is owned by Schneider Electric Industries S.A.S., or its affiliated companies. All other trademarks are property of their respective owners.